



# THE ARCHITECTURAL FORUM

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JULY 1942





# CELOTEX Vapor-seal Sheathing Helps Me Meet Emergency Construction Needs By Replacing "Frozen" Materials



**Big, Weatherproof Boards Handle Easily, Go Up Fast, "Stay Put"!  
Permanently Protected Against Termites and Dry Rot!**

SOFT WOODS are "frozen". Sheet iron and corrugated iron are almost impossible to get. But Celotex Vapor-seal Sheathing is readily available—is not a critical material—and is meeting many of the emergency needs created by lack of "frozen" materials.

Stock sizes include 4' width (as shown) in 8', 8½', 9', 9½', 10' or 12' lengths. Thicknesses: 25/32" or ½". Also furnished for horizontal application in 2' x 8' size, with tongue and groove on long edges. Thickness: 25/32". As-

phalt coating on all surfaces and edges resists moisture penetration. Permanently protected against termites and dry rot by the exclusive, patented Ferox Process.

Let Celotex Vapor-seal Sheathing help you speed emergency construction of barracks, storage buildings, tool sheds, temporary schools or recreation centers—any structure where strength, insulating efficiency, and weather protection are important factors! Write for specifications and samples!

**CELOTEX**  
REG. U. S. PAT. OFF.  
BUILDING PRODUCTS

INSULATING SHEATHING • LATH • INTERIOR FINISHES  
ASPHALT SHINGLES • SIDING • ROLL ROOFING

HARD BOARDS • ROCK WOOL BATTS • BLANKETS  
GYPSUM PLASTERS and LATH and WALL BOARDS

THE CELOTEX CORPORATION • CHICAGO



# JULY 1942

5856-247

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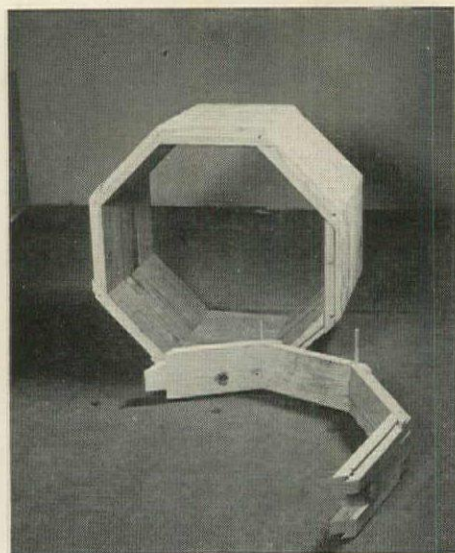
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# Building Reporter



LIDDED "COFFIN" AWAITS THE INCENDIARY



SURED BY PRIORITIES—A WOOD DRAIN PIPE



GLASS FIBERS PROTECT FACTORY WINDOWS

For additional information on any product described in this section write direct to the manufacturer. Air-raid sirens featured on page 100.

**MOBILE BOMB TRAP.** Scooped-up incendiaries burn out harmlessly.

*Name:* Reliance Receptacle.

*Purpose:* To dispose of incendiary bombs falling on apartment houses, office buildings, industrial plants.

*Features:* Made of a lightweight composition material that withstands temperatures up to 6600°F., this device easily copes with the extreme heat generated by burning thermite or magnesium. It is cast in one piece—12 in. wide, 24 in. long, 8 in. deep. Casters permit it to be quickly wheeled into place wherever needed. Handle detaches to form a long-stemmed shovel with which the bomb can be quickly scooped up and deposited inside the receptacle (see cut, left). A cover prevents following waves of enemy bombers from using the blaze as a target.

*Manufacturer:* Williams & Williams Metal Windows, Ltd., 525 East 14th St., New York, N. Y.

**WOOD PIPE** developed by steel company for wartime drainage systems.

*Name:* Armco Emergency Wood Pipe.

*Purpose:* To replace corrugated metal—at least for the duration—in culverts and storm sewers.

*Features:* No critical materials of any sort are used—only short, random lengths of wood ordinarily discarded. Segments (see cut, left) interlock to utilize the material's full strength. Units are prefabricated in 12-ft. lengths or more, can be easily joined in the field by unskilled labor to form a single structure with many of the characteristics of corrugated metal. Under a properly tamped fill the pipe deflects slightly to build up side support and increase its load-carrying capacity. When used in permanent installations, postwar replacements can readily be made 1) by threading corrugated metal through it or 2) by jacking a metal pipe around it and then removing the old structure.

*Manufacturer:* Armco Drainage Products Assn., Middletown, Ohio.

**WINDOW COVERING.** Blast-cushioning glass fiber material for factory blackouts.

*Name:* Fiberglas OC-9 Board.

*Purpose:* To 1) blackout industrial plants, 2) reduce damage from concussion, 3)

protect against spread of fire caused by incendiary bombs or explosives.

*Features:* This product is composed of fine, resilient glass fibers compressed and treated with a binder which gives it sufficient rigidity to serve as a self-supporting, fire-resistant material. It can be faced with glass fiber cloth, plywood or other surfacing materials. In addition to incombustibility and shock-absorption, the glass fibers provide a high degree of heat-loss reduction and sound absorption. Where large window areas are to be covered for the duration of the war 60 to 90 per cent of the heat ordinarily lost through the glass can be saved.

*Manufacturer:* Owens-Corning Fiberglas Corp., Toledo, Ohio.

**PAPER FORMS** instead of wood produce round concrete piers instead of square.

*Name:* Sonotube.

*Purpose:* To speed building of concrete piers.

*Features:* Forms are made of stiff, laminated, spiral-wound, wax-treated fiber. They come in five standard inside diameters—9, 10, 11¼, 12, 13½ in.—which produce round piers equivalent in strength to square piers ranging from 8x8 in. to 12x12 in. Standard lengths run up to 24 ft., can be sawed to exact size on the job. After concrete has been poured and set, the forms are easily stripped off.

*Manufacturer:* Sonoco Products Co., Hartsville, S. C.

**FLOOR RUNNER.** Asphalt composition pinch-hits for unobtainable rubber.

*Name:* Corrugated Floor Runner.

*Purpose:* To prolong the life of floors subject to heavy traffic.

*Features:* Corrugations or ribs form a non-skid surface. Easily handled, the runner lies flat and will not hump. Available in rolls 36 in. wide, 30 ft. long.

*Manufacturer:* Philip Carey Mfg. Co., Lockland, Cincinnati, Ohio.

**GLASS COATING,** transparent and washable, safeguards windows in bombings.

*Name:* Hamlin Shatter-Resistant Film.

*Purpose:* To prevent flying window glass.

*Features:* Film is a water-white, transparent plastic applied by brush or spray. Coverage: about 500 sq. ft. to a gallon. It dries to become almost indiscernible; even after long exposure there is only slight discoloration. It can be washed with cold water.

*Manufacturer:* Spartan Industrial Corp., 11 East 44th St., New York, N. Y.

(Continued on page 97)



## 53% CUT IN ATTIC HEAT LOSS NOW POSSIBLE

Improved type blanket insulation effects important fuel savings: roof-line application provides extra living space.

With war demands on national fuel supplies increasing daily, proper home insulation is now not only wise economy but also a patriotic duty. According to latest studies, fuel consumption can be materially reduced in millions of homes by applying Masonite\* Cell-U-Blanket\*—a modern blanket insulation—to exposed roof rafters from the inside.

- **40% to 53% heat-loss reduction**

Heat-loss tests recently conducted indicate that as much as 40% of the total heat loss in an uninsulated house occurs through the roof. Cell-U-Blanket, merely nailed or stapled to roof rafters, cuts this vital loss anywhere from 40% to 53%, according to the type of structure.

- **No shrinkage, sagging, settling**

Cell-U-Blanket has many unique advantages. Most important—its feather-light core of Cellufoam will neither shrink, sag nor settle, *even when applied vertically*. The asphalt-impregnated coverings provide a positive vapor barrier . . . are wind-proof and moisture-resistant.

- **Additional living space cited**

With the growing need for housing facilities, comfortable bedrooms in idle attics can be created by roof-line application of Masonite Cell-U-Blanket. Masonite Presdwood\* Products are being widely used for finishing these attics with smooth, durable hardboard walls and ceilings.

Local lumber dealers can procure Cell-U-Blanket in 3 thicknesses, 6 widths, and with either asphalt-impregnated coverings on both sides or with a non-metallic reflective surface on the flange side. Mail the coupon for FREE sample and full details.



# MASONITE

## CELL-U-BLANKET

A NEW AND BETTER INSULATION

SOLD BY LUMBER DEALERS EVERYWHERE



MASONITE CORPORATION, Dept. AF-7, 111 West Washington Street, Chicago, Illinois

Please send me FREE sample and further details about Masonite Cell-U-Blanket Insulation.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_

\*TRADE-MARK REG. U. S. PAT. OFF. "MASONITE" IDENTIFIES ALL PRODUCTS MARKETING BY MASONITE CORPORATION. COPYRIGHT 1942, MASONITE CORP.

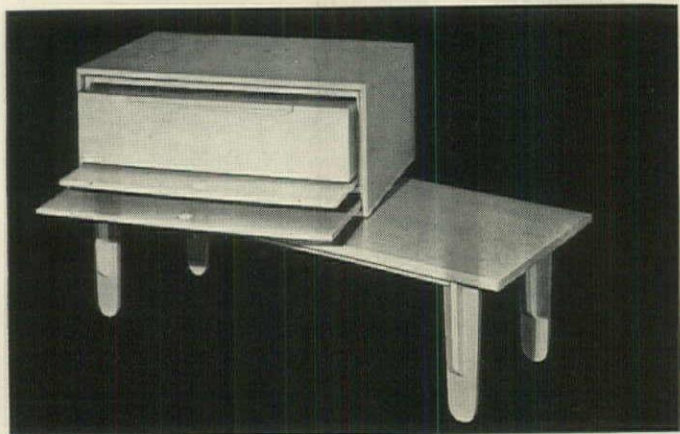
THE ARCHITECTURAL FORUM

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VOLUME 77  
Number 1



# FORUM OF EVENTS



## "PAKTO" GOES INTO PRODUCTION

For the furniture industry as well as the building industry, the war has brought to a head a crisis many years in the making. Furniture has been too bulky, too expensive and inadequate for the needs of the small home. To "Pakto," creation of New York designer and decorator Dan Cooper, goes the credit for being the first line of inexpensive, small-scale, demountable furniture to go into factory production. Characteristic features are the use of natural and lacquered plywood, nesting cabinets, plywood legs, interchangeable elements and ease of fabrication.



MAKE-UP BOX, CLOTHES CASES AND PLATFORM

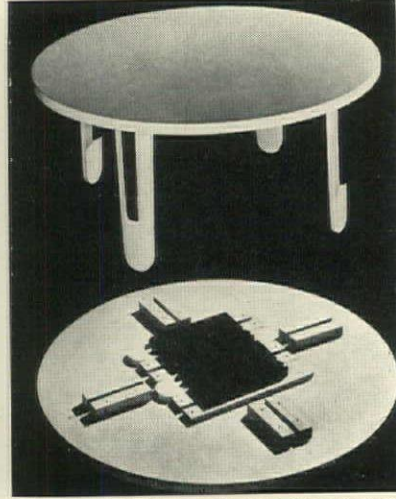
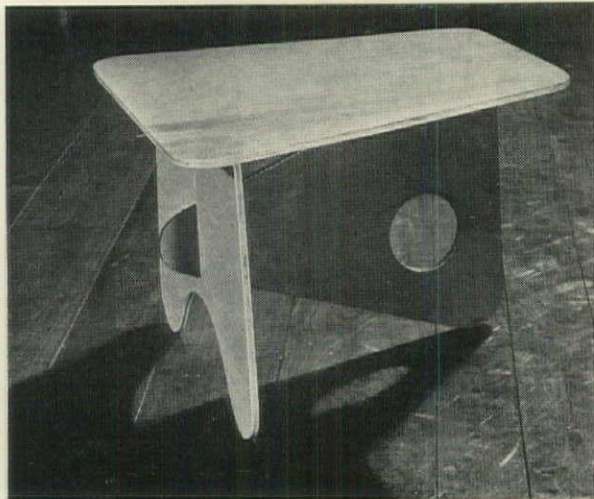
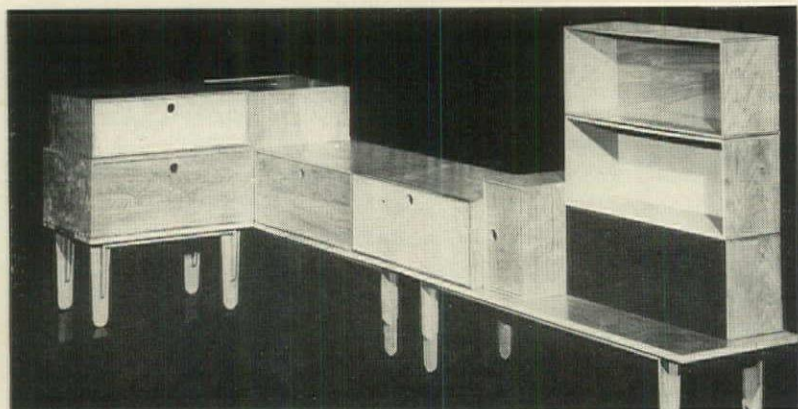


TABLE: TOP IS ALSO CHAIR BACK (LOWER RIGHT) CHAIR

COFFEE TABLE, SET UP & PACKED



BOOKCASES, COMPARTMENTS AND PLATFORM

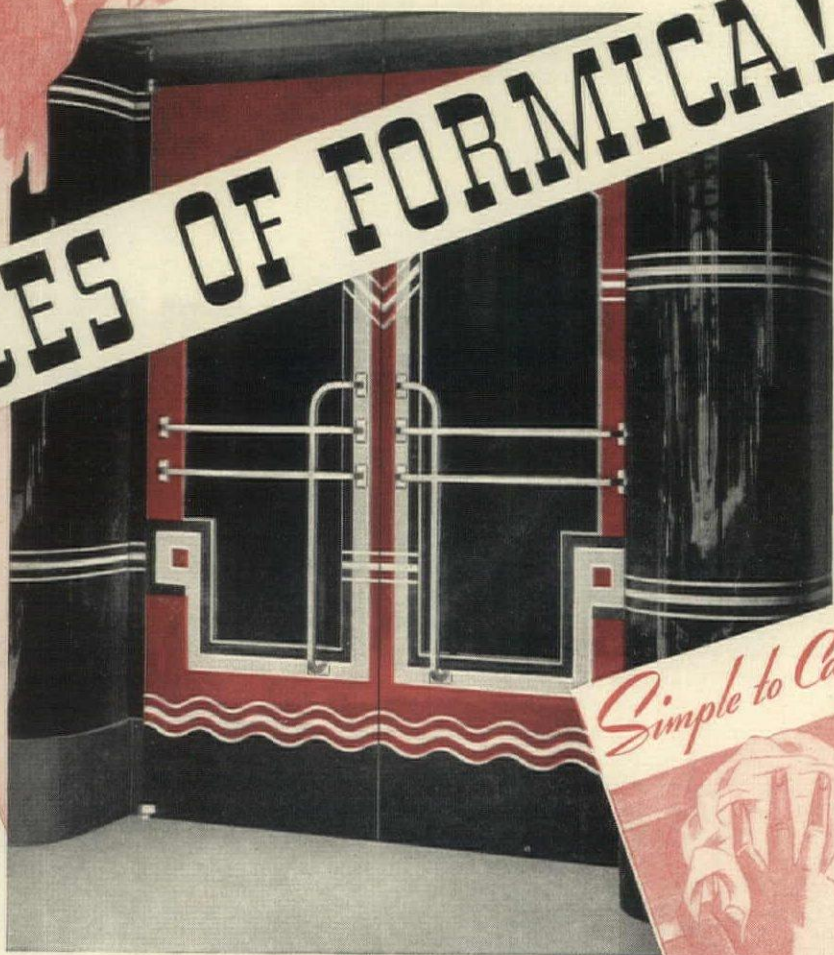


ARMCHAIR, SET UP AND PACKED



*Simple to Care for*

# SURFACES OF FORMICA!



*Simple to Care for*

**T**HE thousands of stores, theaters, hotels, and public buildings in which Formica has been installed in the past few years are happy in their choice today, not only because the material is exceptionally attractive, with handsome colors and patterns, and deep limpid finishes, not only because it is durable, but because it is so easy to clean and maintain. In the present labor market

that is an advantage of no mean importance.

Usually all that is needed to make Formica surfaces immaculate is rubbing with a damp cloth to moisten it and with a dry one to wipe it dry. Sticky or stubborn material can be removed with alcohol or benzol without injury to surface. There is no laborious polishing.

**THE FORMICA INSULATION CO., 4620 Spring Grove Ave., Cincinnati, O.**



*Never was beauty  
more easily maintained  
or more lasting*



# FORUM OF EVENTS

## BRITAIN CONVERTS CELLARS FOR FIGHTING FIRE

It is one of those minor paradoxes of war that the bombings which took place during the Battle of Britain have in some respects left England's cities better equipped to fight raids than they were before. The two pictures here show basements of shattered buildings converted into tanks for static water supplies. The practice not only multiplies the facilities needed by the fire fighters, but reduces the need for the customary steel containers. Below, a workman pouring cement grout into a tank's sloping walls.



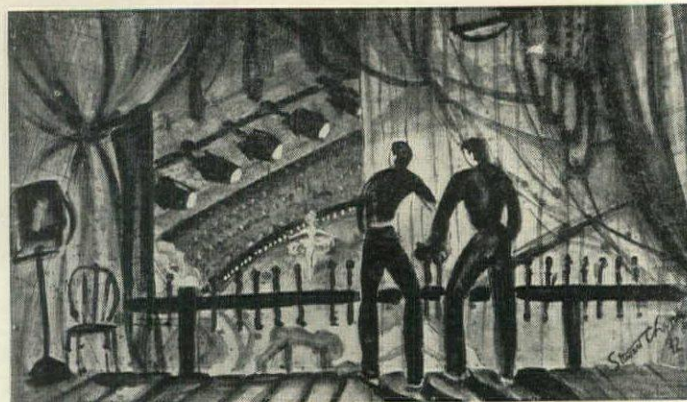
British Press Service



British Press Service

## STAGE DOOR CANTEEN

The American Theater Wing War Service, Inc. is a volunteer organization made up of all categories of people in the entertainment field. Its most spectacular and successful venture to date is shown in the accompanying illustrations, a "canteen" in New York City which puts on two shows every evening and has been playing to an average of 2,000 service men per night. All features of the canteen, including admission, refreshments, dancing and entertainment are free. Participants in the venture have included stage designers and painters, labor unions, builders and lumber yards, food suppliers, etc. Three of the paintings for this unique military night club are illustrated: all of the twenty deal in one way or another with some phase of life in the theater. The photograph in the lower right hand corner shows the manner in which the murals have been arranged around the walls of the crowded basement room.



Vandamm

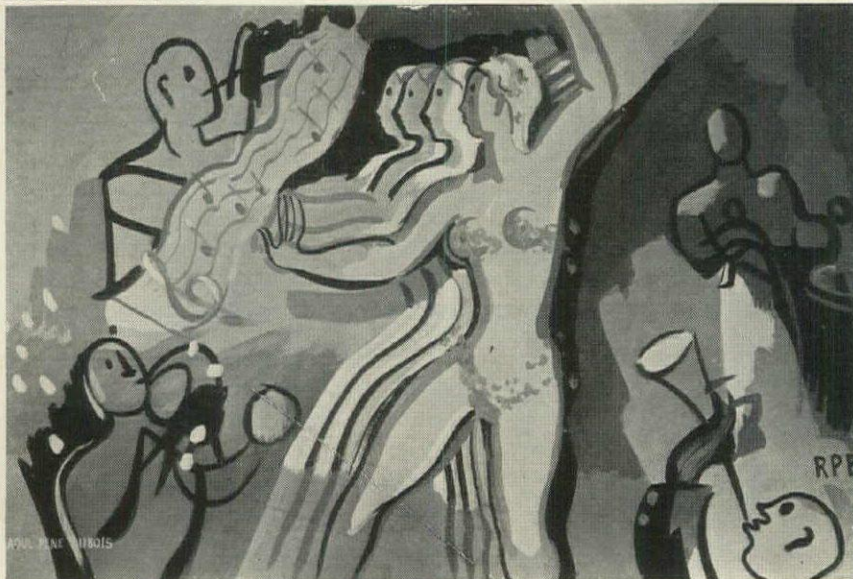
## STEWART CHANEY



Vandamm

## CARL KENT

## RAOUL PENE DUBOIS

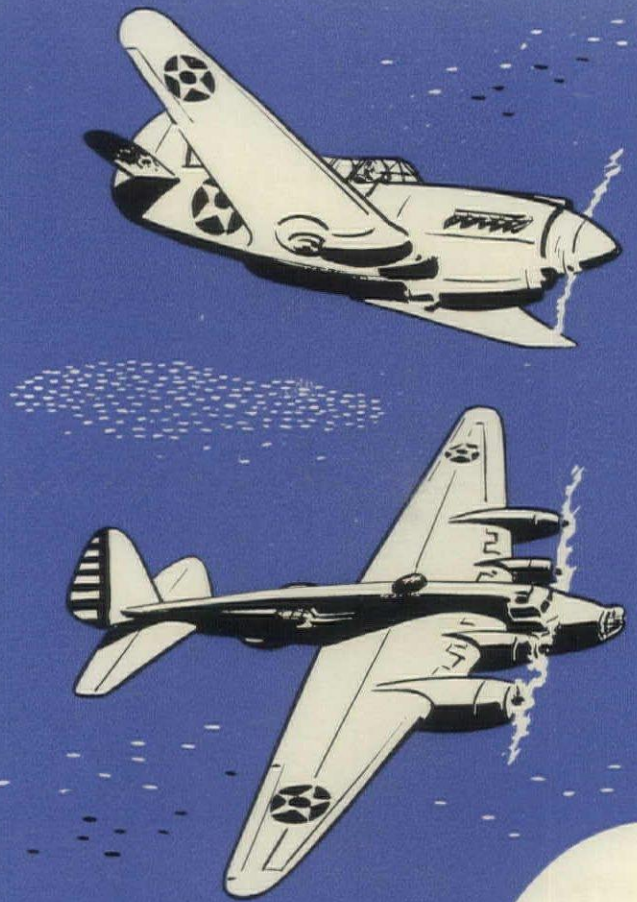


Vandamm



Stage Door Canteen is located in the basement of a 44th Street theater. The space, donated by Producer Lee Shubert, was once occupied by one of Broadway's most glamorous night spots.  
(Continued on page 106)





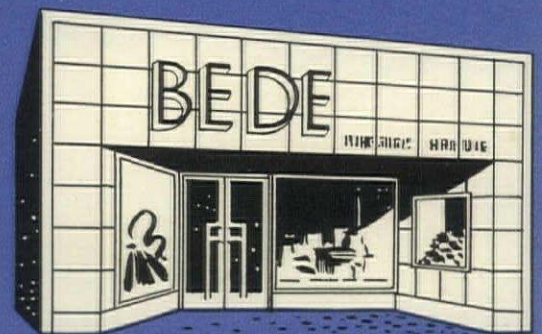
**WAR WORK  
TODAY—**

**Kawneer**

The Kawneer Company, Niles, Michigan—Manufacturers of  
Rustless Metal Store Fronts, Doors, and Aluminum Windows.

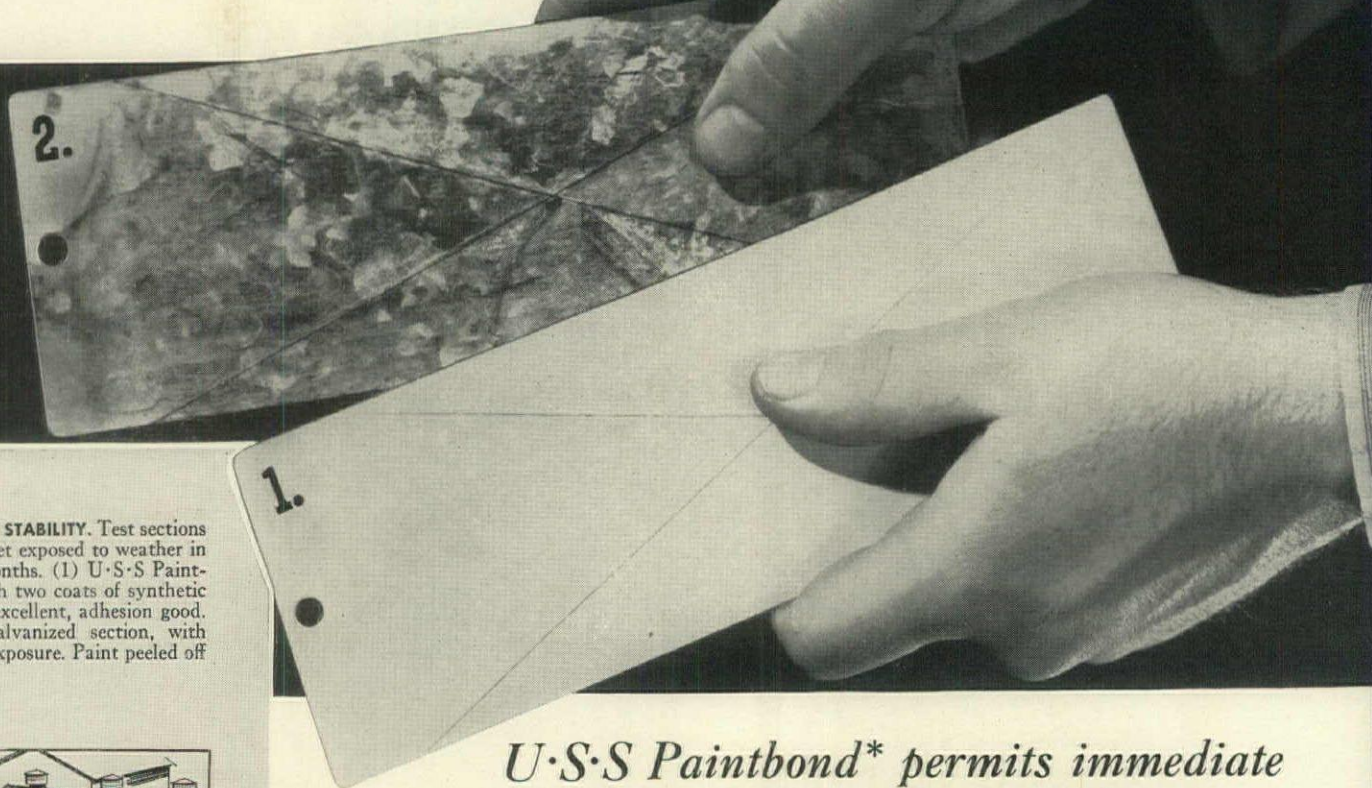
**STORE FRONTS,  
ALUMINUM DOORS  
AND WINDOWS  
TOMORROW**

The Kawneer plant has enlisted 100% for an important role in the war effort. Kawneer experience and ability in the fabrication of rustless metal is now contributing developments that speed up certain war work tremendously. Your Kawneer distributor has Kawneer Store Front Construction in his stock. Check with him for materials available. Look for improved Kawneer products when the war is over.

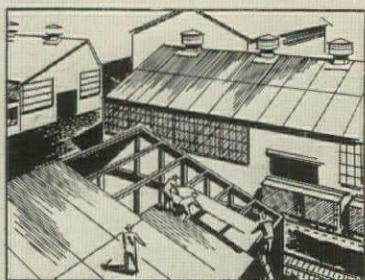




# GALVANIZED SHEETS THAT REALLY HOLD PAINT SAVE TIME AND TROUBLE



**PROOF OF FINISH STABILITY.** Test sections of galvanized sheet exposed to weather in Florida for 18 months. (1) U·S·S Paintbond section, with two coats of synthetic enamel. Surface excellent, adhesion good. (2) Ordinary galvanized section, with same finish and exposure. Paint peeled off 90% of surface.



**PAINTBOND SAVES PRECIOUS HOURS** in the completion of important industrial buildings, because it is ready to paint the moment it is erected.



**DUCTWORK FOR EMERGENCY BUILDINGS** will require less maintenance when it is constructed of U·S·S Paintbond. Paint can be applied at once on the galvanized surface, and the finish is more permanent.



*U·S·S Paintbond\* permits immediate painting and holds paint longer*

**R**EMEMBER when builders had to acid etch a galvanized surface, or wait for weather to condition it, before they could apply a satisfactory paint job? U·S·S Paintbond has changed all that. This galvanized sheet has all the qualities of the best zinc-coated steel sheets—plus a Bonderized surface that gives immediate paintability and often makes paint last much longer.

*U·S·S Paintbond holds paint better* because the Bonderizing process eliminates the chemical reactions between paint and zinc that otherwise would cause flaking and peeling of the paint. The sheet surface is converted to an inert, crystalline phosphate coating, which locks the paint and makes it part of the sheet instead of a mere coating.

*Immediate paintability* means that essential galvanized jobs can be completed faster. There's no delay for acid etching or weathering — no need for workmen to make a second trip to the job site for painting. U·S·S Paintbond saves trouble for your clients, too, by preventing an untimely need for reconditioning or refinishing.

*Investigate this truly paintable sheet* as an ideal material for roofing, siding, gutters and downspouts, furnaces, ventilators and ductwork in buildings where the use of steel is permitted. Write for our Paintbond booklet.

\* \* \*

**IMPORTANT NOTE**—The use of steel is restricted to applications necessary to war. But where you have sufficiently high priorities, we can supply the U·S·S Steel Sheets you must have.

*\*Another galvanized sheet with excellent painting properties is U·S·S DUL-KOTE. This sheet is manufactured in the West by Columbia Steel Company and in the South by Tennessee Coal, Iron & Railroad Company.*

## U · S · S   S T E E L   S H E E T S

CARNEGIE-ILLINOIS STEEL CORPORATION, Pittsburgh and Chicago  
COLUMBIA STEEL COMPANY, San Francisco  
TENNESSEE COAL, IRON & RAILROAD COMPANY, Birmingham  
Scully Steel Products Company, Chicago, Warehouse Distributors  
United States Steel Export Company, New York

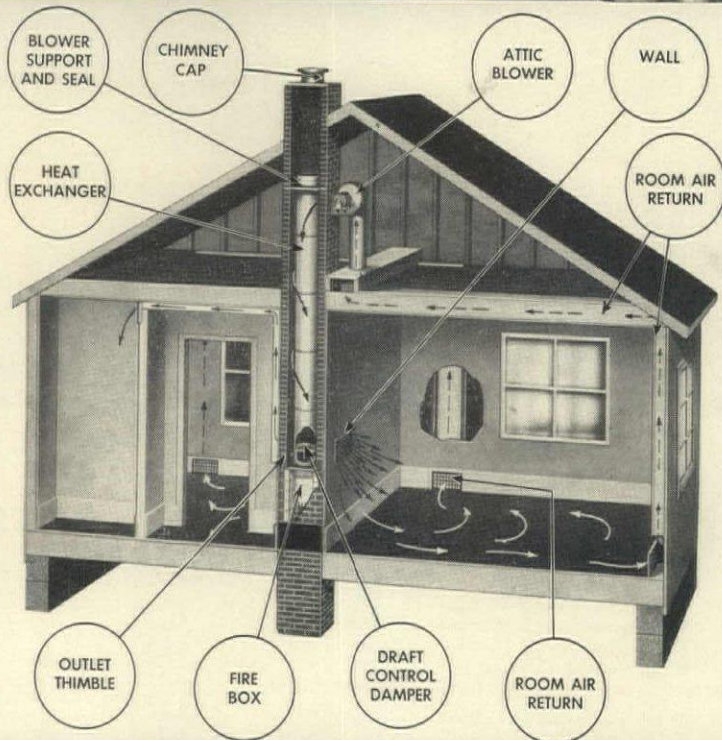
# UNITED STATES STEEL



MAJOR DEVELOPMENT IN VICTORY HOUSING

## THE NEW ROUND OAK

# Chimney Furnace



### IMPORTANT Fluemaster FEATURES

- Unaffected By Most War-Time Heating Restrictions.
- Requires Absolute Minimum of Critical Materials.
- No Room Space Necessary.
- Located Inside the Chimney (first floor or basement).
- Uses Chimney Heat Formerly Wasted.
- Mechanical Heat Circulation.
- Extremely Low Operating Cost.
- Exceptionally Low Price.
- Only 1/3 Size and Weight of Ordinary Furnace.
- Minimum Duct Work Required.
- Convertible to Oil or Gas.

Here is the answer to war-time heating restrictions—Round Oak's new coal-burning Chimney Furnace—the *Fluemaster*—designed especially for low cost Victory Houses and other small homes. Unlike any other type of furnace, it is concealed inside the chimney—on either first floor or basement level. No room space is required. Heat radiates from heavy metal flue (inside brick chimney) and is forced down by blower, in a counter flow, through baseboard, wall, or ceiling grilles. Return air is drawn back to blower through studding spaces and

attic floor joists. Original cost is low. Only a minimum of critical materials is used. Size and shipping weight are 1/3 that of conventional cast furnace. Unusual efficiency assures surprisingly low operating costs, too. *Fluemaster* is an ideal heating unit for Victory Houses, a boon to architect and builder. Write for facts—now!

ROUND OAK AND ITS DEALERS can still serve your requirements for heating equipment that is within the limits of government regulations. Rely on their service.

## ROUND OAK

*of Dowagiac, Mich.*

FURNACES • STOVES • RANGES • OIL  
BURNERS • AIR CONDITIONERS • STOKERS







## Beyond the war waits happiness

After the war youth has a new world to look forward to. For today's young men and women can plan instead of dream, can be sure that the homes their parents merely wished for can become a reality for them.

Here is such a home where every window can frame a garden view, where there is space for all the pleasures and purposes of living, where doors can move aside to enlarge favorite rooms or to include garden and terrace as part of the living area.

Here is more than shelter from the weather, and more than simple provision for physical comfort. This house is designed to surround you with the things that lift your heart and make you glad.

It is a house to be lived in for a lifetime. If your family grows so that more rooms are needed, you can add them. They have already been provided for in the original plan. Even the closet and storage space have been carefully worked out to hold the many possessions which all families accumulate through the years.

Complete with the new inventions and conveniences which copper has brought to modern living, such a house can be made available, through mass production, for not more than \$2,000. And the 36 parts of which it is built can be assembled in diver-

sified arrangements, so it never need look or be just like your neighbor's. For you and those you cherish, it can always be—Home.

A. LAWRENCE KOCHER

In this war, we are fighting not only against our enemies, but for a better way of life for many more of us. Homes such as those Mr. Kocher has designed are an example of what we can have by fighting and sacrificing, and winning.

Great architects and engineers have developed brilliant plans for homes after the war. New techniques will be available for building them at lower cost. Enduring, rust-proof copper will be waiting to give them protection against weather and termites, to help heat them more economically, to insure rust-free water, to afford new comforts and conveniences—to make your home of tomorrow better to own, or rent, or sell.

All of us today are working for Uncle Sam. There is no copper for building, or for any other purpose except winning the war. But in Revere's laboratories, research is continually pressing forward in preparation for the better, happier living that victory can bring us all.



Floor plan showing one of the many attractive arrangements possible with this house.

Naturally, in this limited space, Mr. Kocher could give you only a bare outline of his conception. Revere has prepared an illustrated booklet with complete details. We will gladly send it to you, free. Write us.



# REVERE

COPPER AND BRASS INCORPORATED

Executive Offices: 230 Park Avenue, New York

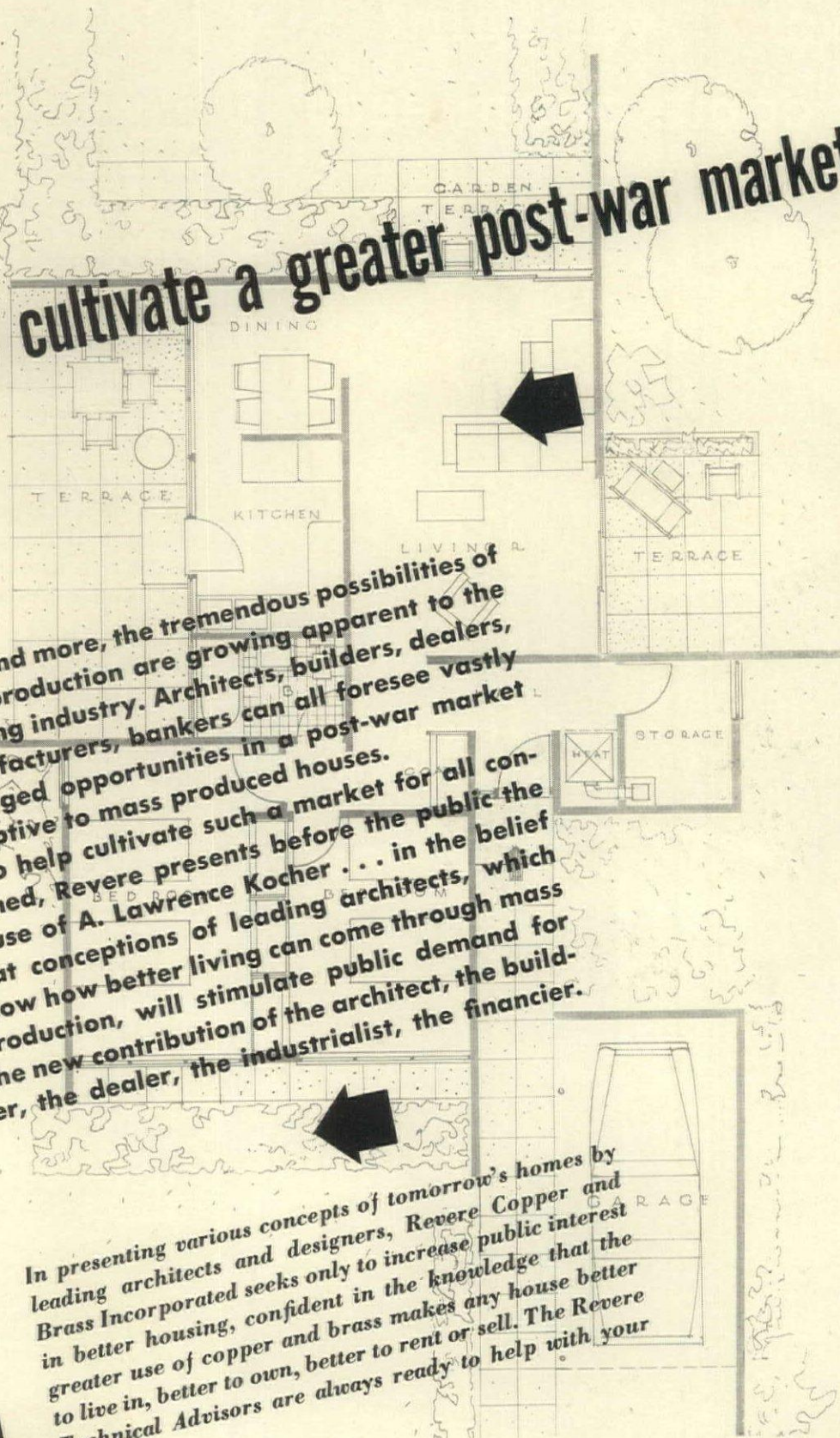


# To help cultivate a greater post-war market

More and more, the tremendous possibilities of mass production are growing apparent to the building industry. Architects, builders, dealers, manufacturers, bankers can all foresee vastly enlarged opportunities in a post-war market receptive to mass produced houses.

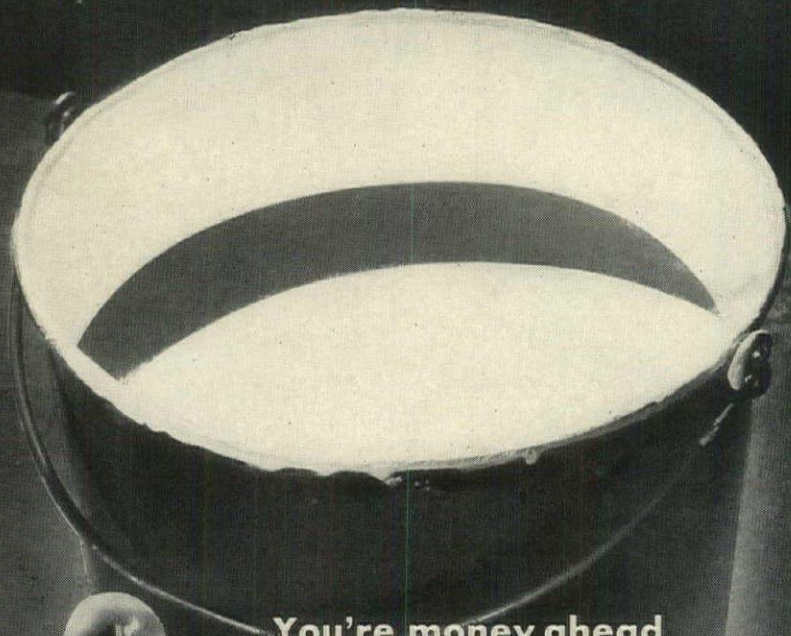
To help cultivate such a market for all concerned, Revere presents before the public the house of A. Lawrence Kocher . . . in the belief that conceptions of leading architects, which show how better living can come through mass production, will stimulate public demand for the new contribution of the architect, the builder, the dealer, the industrialist, the financier.

In presenting various concepts of tomorrow's homes by leading architects and designers, Revere Copper and Brass Incorporated seeks only to increase public interest in better housing, confident in the knowledge that the greater use of copper and brass makes any house better to live in, better to own, better to rent or sell. The Revere Technical Advisors are always ready to help with your problems.



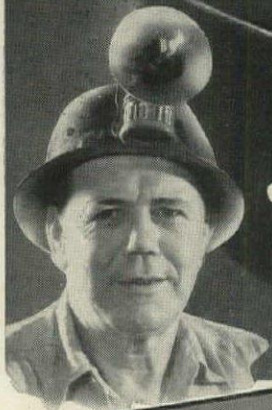


# Specify "war paint"— and come out ahead!



You're money ahead  
when you paint with

## White Lead



**WHITE LEAD FOR DEFENSE HOUSING**—More and more, white lead is being specified to give lasting beauty to low-cost housing. Pictured here is part of the Colonial Village development near Batavia, Ill. Architect: Edgar Hanebuth.

**T**HESE days there's no telling how long the paint you specify may have to last.

So you need to pick a paint that will do three things: first, provide a *long-wearing* coat; second, give *real protection* as long as it lasts; third, you naturally want a paint that will keep your costs down without sacrificing quality. *This is especially important when you're working under cost limitations such as is the case with defense housing.*

Add this all up, and the answer to your wartime paint-problem is — *pure white lead paint.*

Remember that there is no shortage of white lead paint and its good quality is unchanged. Enough is available to take care of both war and essential civilian uses.

White lead is made from one of the most durable of all metals — lead. Like lead itself, it resists time and wear. It gives *elasticity* to paint — a quality which prevents brittleness, cracking and scaling even when the painted surface is exposed for years on end to the weathering effects of sun, wind, heat and cold.

And white lead costs no more to use than regular quality paints. It is an outstanding example of the time-tested truth: "the best is cheapest."

**LEAD INDUSTRIES ASSOCIATION**  
420 Lexington Avenue, New York, N. Y.

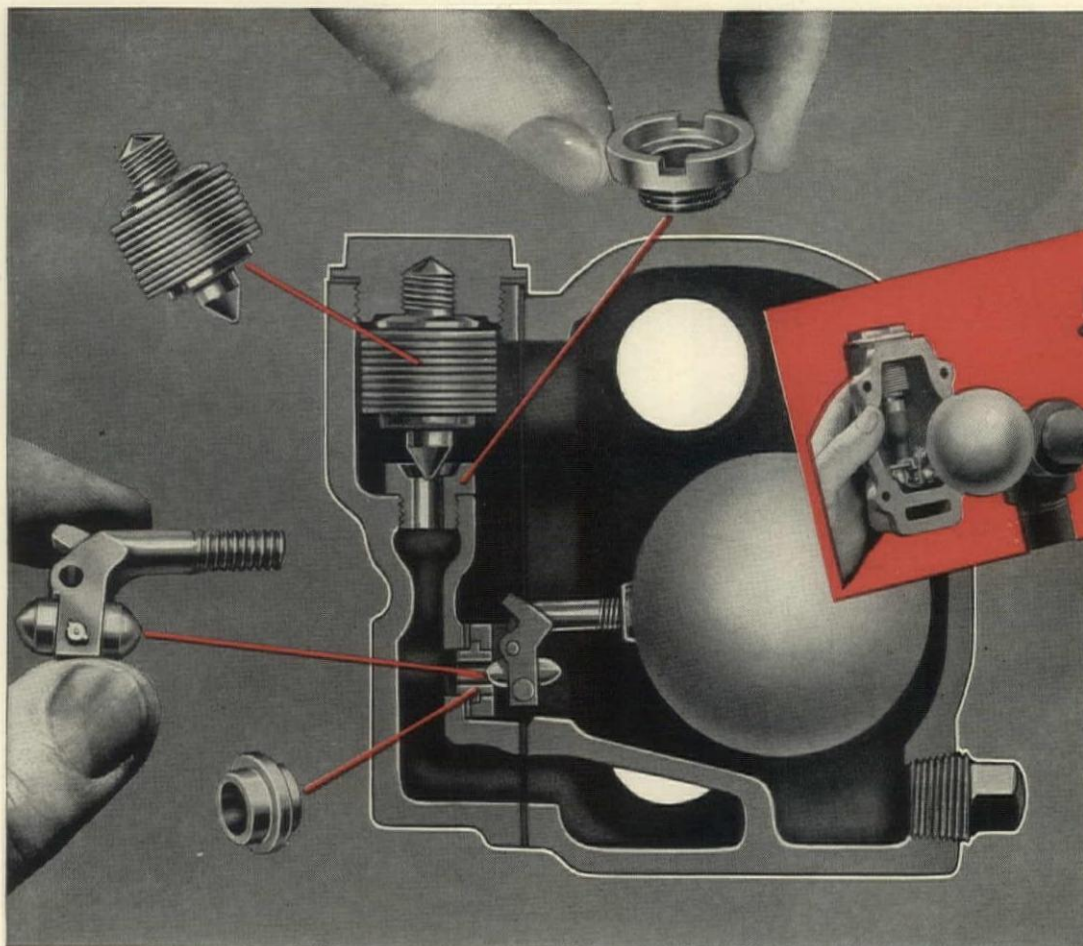
**INFORMATION FOR THOSE WHO SPECIFY PAINT**—Pure white lead is sold by paint stores in two different forms: (1) as a paste, commonly known as "lead in oil," for use by painters and decorators in mixing their pure white lead paint to order for each job; (2) as pure white lead paint in ready-to-use form, in popular-size containers. You are not confined just to white—white lead can be tinted to a wide range of colors.

White lead is also the backbone of other quality paints. In buying exterior paint it is a safe rule to follow: "*the higher the lead content, the better the paint.*"

**GET THIS FREE GUIDE** to better painting. Send today for valuable booklet "WHAT TO EXPECT FROM WHITE LEAD PAINT" containing complete information about low-cost quality painting on all types of surfaces.







**ALL WORKING PARTS  
MOUNTED ON THE  
COVER**

The Hoffman 50 Series Trap, for heavy duty, does a precision job under toughest conditions. Take one apart—see the thirteen features which put this trap in a class by itself. Note particularly that all working parts are mounted on the cover—easily exposed for cleaning without breaking pipe connections. Reversible Valve Pins and renewable Seats for longer life.



*Hoffman Steam Specialty bulletins will help you select the right heating equipment on your next job.*

*which can be repaired when needed with little expenditure of critical materials!*

Hoffman Steam Specialties conform to these standards. They provide for full utilization of every last BTU . . . because they are designed that way! They can be maintained at full efficiency for years by inexpensively replacing those parts in which long usage is bound to cause wear.

This is genuine cooperation with our war economy. Instead of junking a complete unit, the reversing or replacement of perhaps a single part will put a Hoffman Specialty back in operation.

Hoffman offers Steam Traps in a complete capacity and pressure range . . . a full line of Air and Vacuum Valves for venting heating units and mains . . . and Vacuum and Condensation Heating Pumps. Detailed information on each is given in illustrated bulletins—send for your copies. Hoffman Specialty Company, Dept. AF-7, 1001 York St., Indianapolis, Indiana.

## EVERY PART RENEWABLE!

**A SPECIFICATION OF HOFFMAN  
STEAM SPECIALTIES IS DIRECT  
AND PRACTICAL COOPERATION  
WITH OUR WAR ECONOMY PROGRAM**

Vital metals go into the Specialties necessary to steam heating system operation. It is good business judgment and practical patriotism to use those which give better service longer . . . and



**INTERCHANGEABLE THERMOSTATS**

Many Hoffman high and low pressure traps have Bellows Thermostat, Valve Pin and Seat combined in a single unit, easily removed for cleaning or inspection. The Thermal Unit can be replaced without adjustment and interchanged between valve bodies of the same size.

# HOFFMAN

*Controlled Heating*

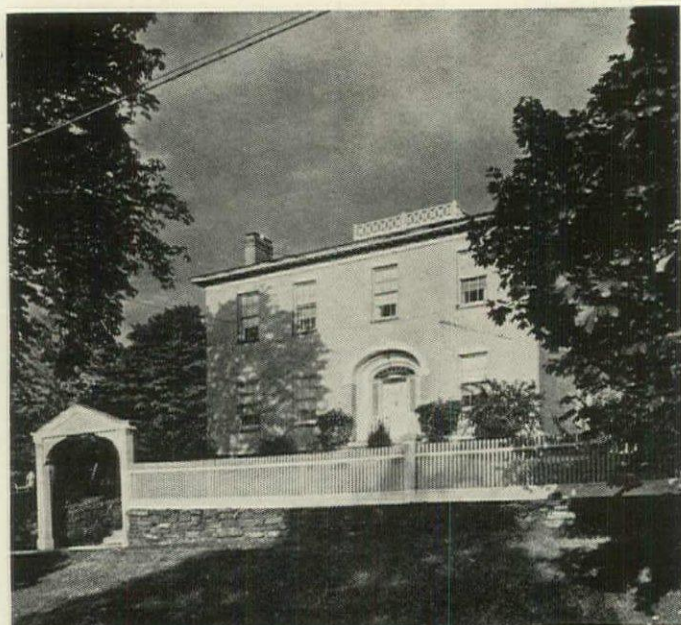
VALVES, TRAPS, VACUUM AND  
CONDENSATION PUMPS, FORCED  
HOT WATER HEATING SYSTEMS



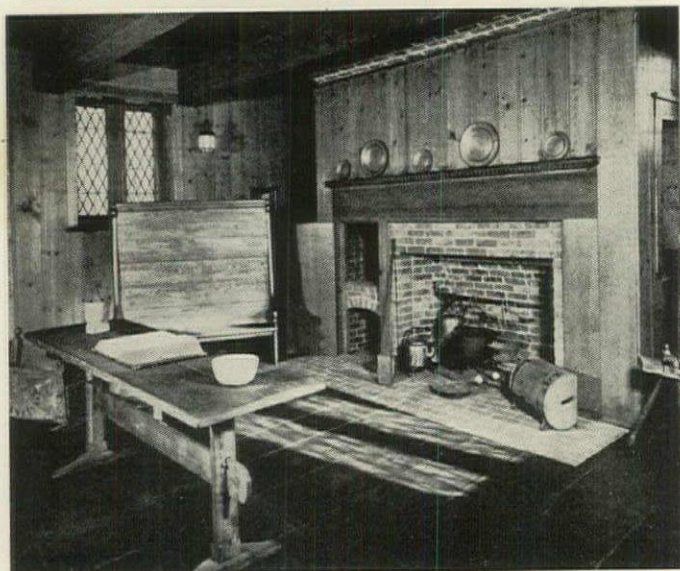
STEAM / HOT WATER



# BOOKS



VAN LOON HOUSE, ATHENS



KITCHEN, FORT CRAILO, RENSSELAER



"OLD TURTLE" HOUSE, HUDSON

**HISTORIC HOUSES OF THE HUDSON VALLEY**, by Eberlein and Hubbard. Architectural Book Publishing Company, Inc., New York. 207 pp., 200 illustrations. 9 1/4" x 12 1/4". \$10.

The Hudson River, like other important waterways of the East, formed the nucleus of a whole region's trade and culture during the Colonial period. For many years it was the only satisfactory artery of transportation, and even after roads began to come in, the river retained its favored position as the easiest and most economical line of communication for the settlements along the river. The lands on each side were well adapted for agriculture and the raising of livestock, and the larger part of these lands was held in the form of enormous estates. On the tributaries of the main river, mills were built to make use of the water power, and around the mills small trading centers grew up. The social and economic pattern of the Hudson River Valley was created by the large estates, whose old-world feudal character persisted for years after the Revolution. The houses of the landlords naturally reflected their great wealth and power. They were arranged with taste and great elegance, built with the finest native and imported materials, and furnished with the best furniture and textiles from Holland and England. The bulk of the material shown in this book consists of these houses, built from the late seventeenth century to the beginning of the nineteenth.

In many respects they are similar to the houses along the James and Mississippi Rivers and to the wealthy merchants' houses in the coast cities of New England. They had in addition certain characteristics of their own, partly the result of regional influences and partly the natural reflection of their mixture of European backgrounds. Both Dutch and English traditions played important parts in the architectural development of the Valley, and the interaction of local and imported influences is particularly interesting. The photographs are most valuable in this connection, because they have been selected very intelligently to show the range covered by work during the period, and because they are technically good, a quality not always present in these surveys of historic buildings. The photographs are by far the most useful part of the book, as the text consists largely of descriptions of the early owners and their activities, material no doubt interesting to local historical societies, but of little architectural value.

Views of three of the houses in the book are shown at the left. The Van Loon house is in Athens, New York, and was designed around 1810. Substantially built of brick, completely simple except for the very handsome recessed doorway, it is one of the finest examples of domestic architecture the period produced. The architect was Barnabas Waterman of Hudson, designer of other distinguished houses in the Valley. A much earlier house is Fort Crailo, built sometime during the seventeenth century and actually designed for use as a fort. The house is best known as the place where "Yankee Doodle" was written. Whether the legend is true or not, it undoubtedly was responsible in part at least for acquisition and excellent restoration of the property by the State.

The "Old Turtle" house is a fine example of the freedom with which contemporary builders handled the prevailing style when it suited them to make changes. Here the owner is said to have been a retired ship captain who wanted a house he could walk around without interruption. Again the story is less important than the fact of the building, which shows a boldness of conception that might well be copied by present-day imitators of the style.

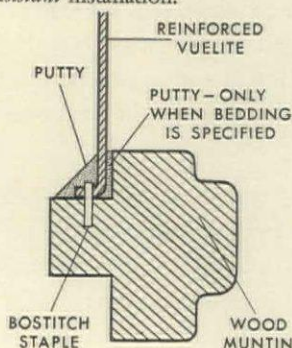
(Continued on page 108)



## QUICK, EASY TO INSTALL

Reinforced Vuelite is available in drawn panels .03" thick with a quarter-inch flange which can be easily and quickly fastened to any conventional multi-paned wood sash with an automatic stapler.

Simply push the panel in place. Fasten with staples as close to the corners as possible. Add more staples at three-inch intervals. Then seal with putty in the usual manner, with the same type of putty used for glass, and you will have a permanent, weather-tight, weather-resistant installation.



### ASSEMBLY

Due to wartime restrictions on metals most new construction requiring Reinforced Vuelite involves wooden sash. The best way of installing Reinforced Vuelite in steel sash has not yet been determined but there are several which experiments indicate will be equally as quick and easy as the method of fastening to wood sash.

☆ ☆ ☆

Standard sizes in which panels of the new material will be supplied are listed below. In addition to these sizes, it can be drawn or formed to special shapes. Unless otherwise specified, panels will be supplied with the quarter-inch flange.

WIDTH		LENGTH
9½"	x	9½"
9½"	x	12'
9½"	x	16'
9½"	x	19½'
9½"	x	24½'
19½"	x	12'
19½"	x	16'
19½"	x	24½'

**NOW!**  
**NO MORE FLYING GLASS**  
**IN AN AIR RAID!**

## New Reinforced Vuelite withstands blast of 150-lb. bomb 8 feet away!

WHEN air raid sirens screamed in England, work stopped in vital war plants at machines set near windows... for concussion from even a distant bomb would fill the air with deadly slivers of flying glass.

To solve that problem here, Monsanto, in collaboration with the United States Navy, has developed this window pane of standard, sixteen-mesh wire screening laminated with Vuelite, the transparent cellulose acetate widely used for lighting fixtures.

Unlike the types of plastic-coated cloth and wire previously used to replace "bombed out" glass in England, this new, reinforced Vuelite is as clear and transparent as a screened window of glass and can be easily installed in any conventional, multi-paned steel or wood sash.

*Most important of all, however, it is tough and strong enough to withstand the blast of a 150-pound bomb exploded just eight feet away!*

Tested under vacuum shock conditions, it stood up without appreciable damage under a 28-inch vacuum, while clear glass shattered at 15 inches and heavy, wire-reinforced glass at 26. In further official tests, a quarter-pound ball dropped from a height of 20 inches smashed ordinary glass while it took a two-pound ball from a height of 42 inches to penetrate a pane of reinforced Vuelite. Even then, the missile left a clean-cut hole which could be repaired with cellulose tape with very little loss in breakage resistance over a solid piece.

Already being purchased for use by our armed forces in war areas, reinforced Vuelite should prove highly useful in troop barracks, air fields, and vital industrial plants in potential air-raid zones and in certain types of military equipment. For samples and full details, inquire: MONSANTO CHEMICAL COMPANY, Plastics Division, Springfield, Massachusetts.

**MONSANTO**  
**PLASTICS**

SERVING INDUSTRY...WHICH SERVES MANKIND

### The Family of Six Monsanto Plastics

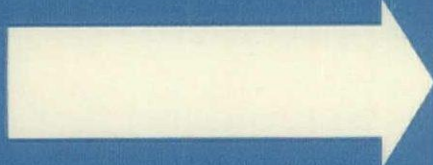
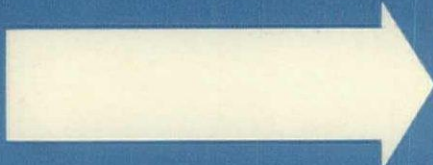
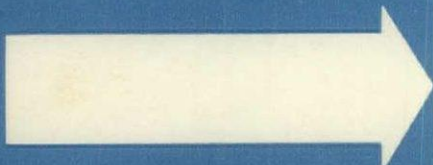
(Trade names designate Monsanto's exclusive formulations of these basic plastic materials)

LUSTRON (polystyrene) • OPALON (cast phenolic resin)  
FIBESTOS (cellulose acetate) • NITRON (cellulose nitrate)  
SAFLEX (vinyl acetal) • RESINOX (phenolic compounds)

Sheets • Rods • Tubes • Molding Compounds • Castings  
Vuepak Rigid Transparent Packaging Materials



# THREE OFFERS AND A PROPOSAL



IMAGINEERING



**FIRST OFFER:** If you operate *any kind* of equipment made of aluminum and you are baffled in any way in maintaining it in top condition—give us the facts, and we will rush you our recommendations.



**SECOND OFFER:** If you are making anything whatsoever out of aluminum, and are stumped in any way in setting up the best methods of fabricating it—give us the facts, and we will see that you get all the know-how in our power.



**THIRD OFFER:** If you have joined the host of those who believe that industry must even now be planning the new products that will make jobs when this thing is finally over; if you are letting your imagination soar: Won't you ask us to help you engineer it down to earth with all the up-to-date facts about Alcoa Aluminum, plus some of the very practical dreams we have been dreaming?

**AND THE PROPOSAL:** Do some personal Imagineering, right now, for the sake of your own personal tomorrow.

We have been talking Imagineering for some months largely in terms of the future. And in terms of industry. But here is the personal slant:



Thirty billion dollars is loose in the country. It is the gap between what is available for spending and what is available for personal purchases. Each of us has a sliver of that chunk of excess purchasing power.

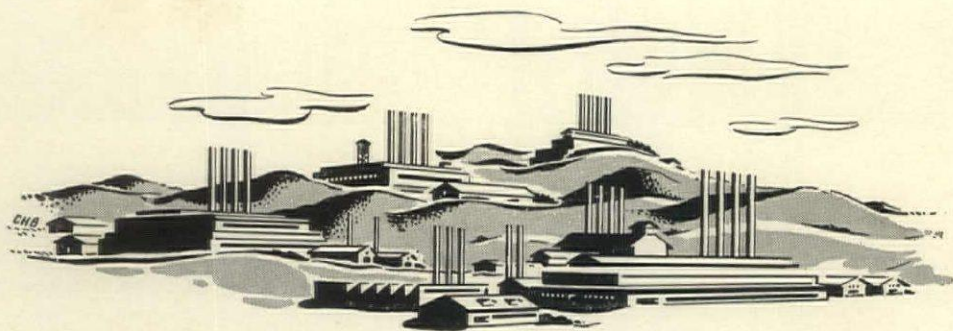
If we put it into War Bonds, we are told that it will both finance the war, and avoid inflation. We sometimes forget that it will also finance ourselves, as users of goods, to buy the new products we are all readying, as makers of goods. Buying tomorrow, today, is patriotism and sense—business sense.

Aluminum Company of America, 2166 Gulf Bldg., Pittsburgh, Pa.

# ALCOA ALUMINUM







***40,000 TODD UNITS***

***helping to cook  
Hitler's goose!***

**D**EFEAT of the Axis begins in America's power plants, where fuel-energy is unleashed and put to work... is transformed into machines turning... planes flying... shells blasting the enemy's strongholds! All-out power production... top combustion efficiency... mean more tools for the job... speedier overthrow of Berlin, Rome and Tokio!

Todd equipment, in power plants of every type, is taking today's three-shift load in its stride... setting the pace everywhere for minimum-maintenance and maximum-performance in the firing of liquid and gaseous fuels. Over 40,000 Todd units are now in service, in individually designed installations, backed by more than a quarter-century of combustion engineering experience. Todd technical service staffs in key cities, with parts and replacements always available, are helping industry to reach—and surpass—the power-quotas required by America-at-war.

FOR VICTORY



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UNITED  
STATES  
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STAMPS

**TODD COMBUSTION EQUIPMENT, INC.**

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# LETTERS

## WAR HOUSING

Forum:

May I congratulate you upon your clear-cut, concise analysis of the war housing program and the policy essential to its attainment as set forth in the May issue of *THE ARCHITECTURAL FORUM*.

My experience in association with some \$30 millions worth of Government work during the last two years indicates very definitely that a statement of policy together with a carefully worked-out program on the part of governing agencies, with authority to execute such policy and program in the field, would have avoided numerous pitfalls and delays. If your constructive criticism and suggestions are heeded, proper housing facilities can be adequately provided in the immediate future.

ADRIAN WILSON

Los Angeles, Calif.

Forum:

I think your broadside, "\$600 Millions For What?," is an excellent contribution in the present dilemma.

I would go further. Not only do I agree that this war workers housing should be temporary, cheap and quickly constructed, but I feel it should go hand in hand with the plant construction itself.

Whether the plants be constructed by the Defense Plant Corp. or otherwise, the living shelters for the workers should be planned and built at the same time as the working shelters of the workers and under the same auspices.

I feel that our housing authorities are so saturated with prewar notions that this sort of direct approach is beyond their usefulness and that it should be contained within the jurisdiction of the War Production Board.

CHARLES C. PLATT

New York City

## NORFOLK, VA.

Forum:

Your magazine is excellent in its own field but in our opinion, you stepped out of it and into that of cheap sensationalism in your recent feature on Norfolk. Our city has had a great problem thrust upon it suddenly and without warning, and what we need is more helpful assistance and less cavilling criticism.

A journalist finds exactly what he sets out to find in a city, and by the judicious mention or omission of facts can create any impression he chooses. Your reporter has chosen to create the wrong impression. He did not even pay us the compliment of making a thorough study of our city—it was wholesale condemnation without investigation. Norfolk has certainly not found the perfect solution to its troubles, nor is it close to one, but it is no worse off than any other city would be under the same circumstances, and possibly a bit better.

We should particularly like to have it understood that our bankers, real estate men and service authorities are not antagonistic, as you insinuate, and that our people are not the inefficient money-grabbers you paint.

We do not threaten any drastic action against you. We give you the benefit of the doubt, and make you a sporting proposition. If you really want a good article on Norfolk, let us furnish you with pictures of our outstanding examples of architecture—our new Federal Building, one of the finest in the country; our Museum of Arts and Sciences; the old Norfolk Academy Building; the Norfolk Newspapers Building, said to be one of the South's outstanding exhibits in the classification; the new Greyhound Bus Terminal, modern to the last degree; the Nor-

folk Division of the College of William & Mary, with its stadium seating 20,000 people; the Old Custom House and the Old Court House with massive pillars and grace of line; and numerous other examples. We shall be glad to cover such assignment for you without charge.

FRANCIS E. TURIN

Norfolk Advertising Board  
Norfolk, Va.

How many war workers will the Museum of Arts and Sciences, the Norfolk Academy Building and the Norfolk Newspapers Building accommodate?—Ed.

## NORFOLK NEWSPAPER COMMENT

From the *Norfolk Virginian-Pilot*:

A picture of Norfolk, jammed to the last hall bedroom by a swelling influx of tens of thousands of war workers, with people sleeping in "half a bed for half a day," is vividly drawn in the principal article of *THE ARCHITECTURAL FORUM* for June, and blame for the condition is plopped squarely on the doorsteps of real estate men, bankers and the Navy.

The article in question, entitled "Norfolk, Virginia: Confusion, Chicanery, Ineptitude," has whipped up a perfect hurricane of comment since local subscribers received the June issue, eliciting praise or bitter protest, depending on whose ox was gored.

Architects, who naturally are more interested in the magazine than anyone else, appear to be divided about as much as possible in their reactions to the article. Some said it was 100 per cent accurate, and just what Norfolk needs to wake the people up. Some flew into a huff and said they intended to cancel their subscriptions to *ARCHITECTURAL FORUM*.

One local architect said yesterday that, for all the apparent slams against Norfolk,

(Continued on page 110)

Friday

### Court Severe On Violators Of Blackout

Judge Jacob Announces Enforcement to 'Letter of the Law'

Officials Pleased

Portland and Marshall Find Test Satisfactory, and Much Learned

By Al T. Lewis

Some Find It True, Some Don't

### Reaction Here Divided on Magazine Article, 'Norfolk: Confusion, Chicanery, Ineptitude'

'Not Much of a Town—Nor Its Neighboring Communities' Answers in Making

Real Estate Men, Bankers and Navy Taken to Task in 'Forum'

By Al T. Lewis

A picture of Norfolk, jammed to the last hall bedroom by a swelling influx of tens of thousands of war workers, with people sleeping in

## Norfolk Virginian-Pilot

### Architects' Magazine Places Blame for Housing Shortage On Banks, Realtors and Navy

Architectural Forum Finds Situation of 'Confusion, Chicanery, Ineptitude'; Solution Seen in Creating 'Unified Command'

"Norfolk, Va., confusion, chicanery and municipal planning ineptitude," is reprinted by The text of the article follows: Norfolk is familiar with war. During the Revolution it was de-

### Labor Savers

Don't wait your wife to do housework. In half with known labor saving devices at home.

## W.C.S.

Norfolk, Va.



of this year the figure had already soared to almost \$60,000,000, with no ceiling in sight.

"Soon and headache"

To Norfolk and the surrounding towns, this unprecedented expansion has been a boon and a headache. While shops and hotels, upped prices from one record high to another, while food costs went out of sight, almost unbelievable pressures were generated by the increasing population. To the area's 94,000 dwelling units, some 20,000 to 25,000 will have been added by the end of this year. This increase, as yet unparalleled anywhere, has failed utterly to keep pace with the influx. It has strained





# LOOKING FOR

# "KNOW HOW"?

## HERE IS THE QUICKEST WAY KNOWN TO APPLY INTERIOR WALLS AND CEILINGS

Vital aid from the architectural profession has guided the development of dry-built mass production methods which are enabling war housing contractors to slice *weeks* from tight construction schedules—save thousands of dollars for the U.S.A.

Wall linings, applied piece-by-piece, take too much time—run up costs. Upson *Strong-Bilt* Panels in full wall size—thick, strong, rigid, durable, and *crackproof*, have opened a whole new conception of interior wall lining construction. Simple new mass production systems, developed by our architect-engineers, speed handling and application. And no wall lining material of any kind produces such appealing beauty.

On scores of projects and in many thousands of small homes, both public and privately financed, *Strong-Bilt* Panels are providing the answer to speed and quality specifications.

► **FULL WALL CONSTRUCTION:** Giant Panels 8' wide, long enough to cover entire wall of average room without seams or joints. Also available 4' wide.

► **DRY-BUILT METHOD:** No moisture. Apply any month of the year.

► **APPLICATION TIME:** 40 to 50 man-hours for average family unit. Building time cut two to three weeks over plaster. No cutting, taping, and filling of joints—time and money saved.

► **INSULATION VALUE:** 3½ times that of plaster. High resistance to transmission of sound.

► **NO NAILS TO COUNTERSINK:** No filled holes to mar finished surface. Special Floating Fasteners grip panel from rear.

► **REDUCED PAINTING COST:** Panels pre-sized at factory. Single coat usually sufficient. Never more than two.

► **FHA ACCEPTED:** Liberal terms—streamlined for the "duration."

► **PRE-FABRICATION:** For projects of 100 units or more, sizes are pre-cut and numbered at the factory—ready for lifting into place at the site, or in pre-fabricating plant. Saves time and waste.

### PHONE, WIRE OR WRITE

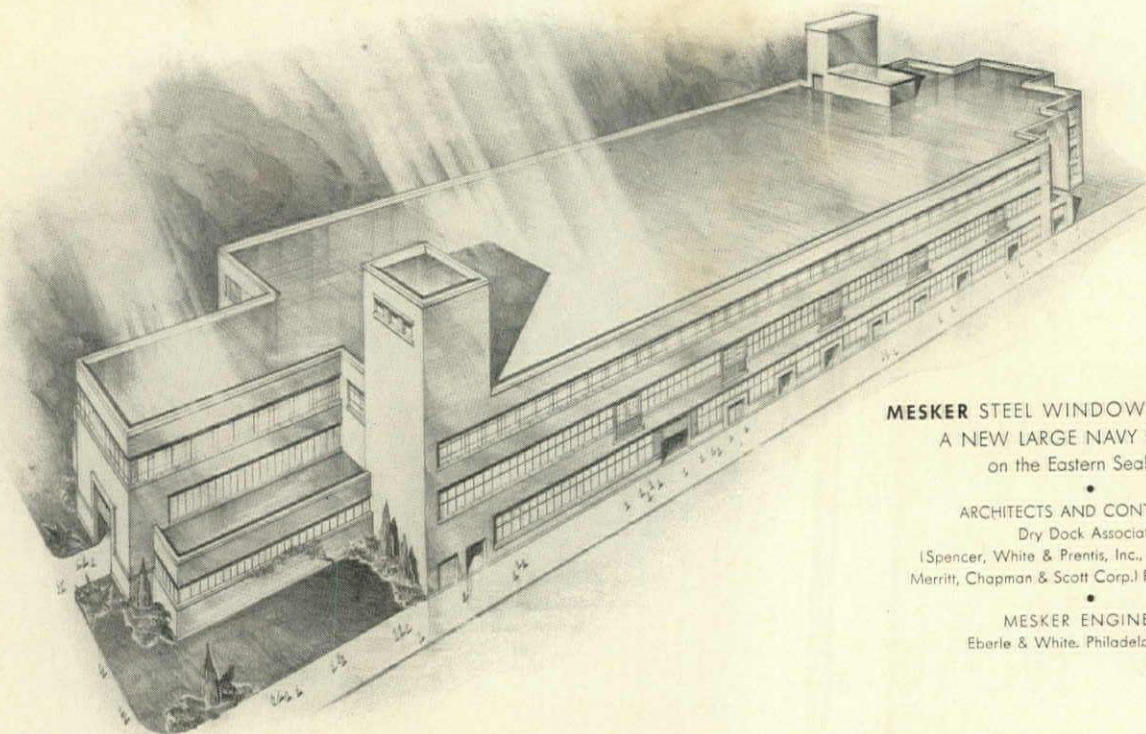
Assistance and "know how," resulting from wide project experience, has been collected into a booklet which details the new methods and pictures the striking beauty of finished interiors. It will be sent free upon request. The Upson Company, Department 2-E, Lockport, New York.



# UPSON STRONG-BILT PANELS

*Most beautiful surface on any wall material*





**MESKER STEEL WINDOW ENGINEERED**  
A NEW LARGE NAVY BUILDING  
on the Eastern Seaboard

ARCHITECTS AND CONTRACTORS  
Dry Dock Associates  
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MESKER ENGINEERS  
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## ANCHORED... against all storms

There are many reasons why all Mesker Pivoted Sash provide for a minimum of  $\frac{5}{8}$ " anchorage in the masonry. It assures a more weather-tight installation, even

where brick jambs are slightly out of plumb or wavy. Moreover, it gives a wider area for caulking; the window is *anchored* in the wall more *solidly*. In

steel framing, especially,  $\frac{5}{8}$ " anchorage means maximum overlap...for *maximum weather-tightness*. For EXTRA user

satisfaction in the future, specify

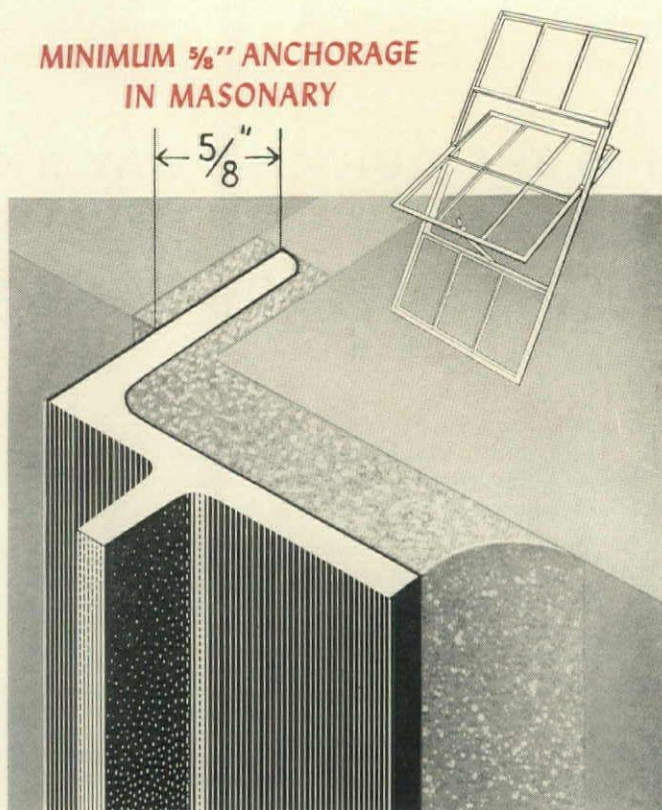
Mesker Steel Sash.



### THE DOUBLE THICK WEATHERING BAR

...used on Mesker Industrial Pivoted Sash is  $\frac{1}{2}$ " thick...twice that used by others in Industrial Steel Sash. This exclusive feature, so dramatically illustrated by the Visual Test Kit (free upon request), is indicative of the quality built into ALL Mesker products.

### MINIMUM $\frac{5}{8}$ " ANCHORAGE IN MASONRY



# Mesker Brothers

## STEEL SASH

424 SOUTH SEVENTH ST., ST. LOUIS, MO.

CASEMENT WINDOWS • MONUMENTAL WINDOWS • INDUSTRIAL WINDOWS  
INDUSTRIAL DOORS • METAL SCREENS • DETENTION WINDOWS



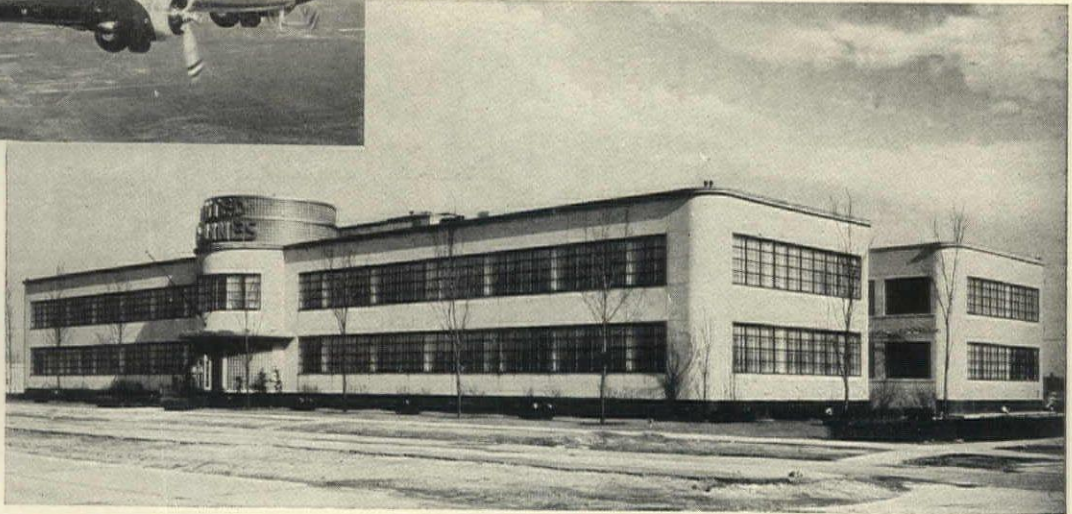


# TRANSPORTATION *is A-1-A!*

A United Air Lines Mainliner, which flies from coast to coast overnight, helping to knit into a unified force, the various elements in America's war production. At right, the newly completed United Air Lines headquarters at Chicago.

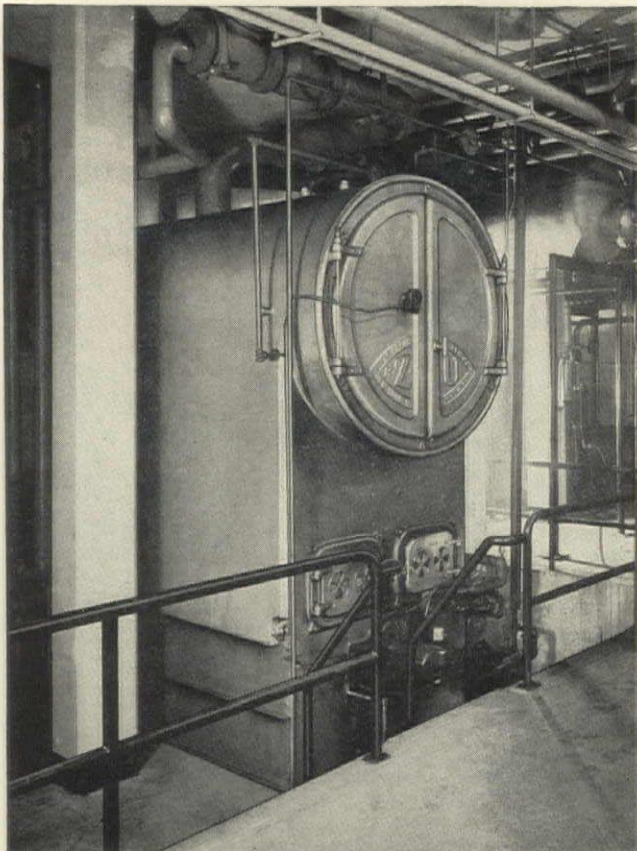
Architect, Albert Kahn, Inc., Detroit, Mich.

Heating Contractor, O. A. Wendt, Chicago, Ill.



## *The* **LARGEST AIRLINE HEADQUARTERS**

### *selects HEAT by* **FITZGIBBONS** **R-Z-U STEEL BOILERS**



The Fitzgibbons R-Z-U Steel Boiler in the boiler-room of the United Air Lines headquarters. This is an oil-fired unit, with the especially proportioned combustion area typical of Fitzgibbons oil burning steel boilers to get maximum results from burner and fuel.

(Photos on this page, by courtesy of United Air Lines).

Another installation of first importance, another heating job that carries with it something of the spirit in the conferring of honors, falls to Fitzgibbons. The completion of the final wing which more than doubles the size of the United Air Lines general headquarters at Chicago, makes this the largest general office headquarters of any airline in the world. A Fitzgibbons R-Z-U steel heating boiler heats the new structure.

From large edifices like this, hospitals and public buildings, down to the modest 5-room homes for war workers, the qualities which provide economical, dependable heating comfort are found in steel boilers, conditioners and furnaces by Fitzgibbons.

### ***Fitzgibbons Boiler Company, Inc.***

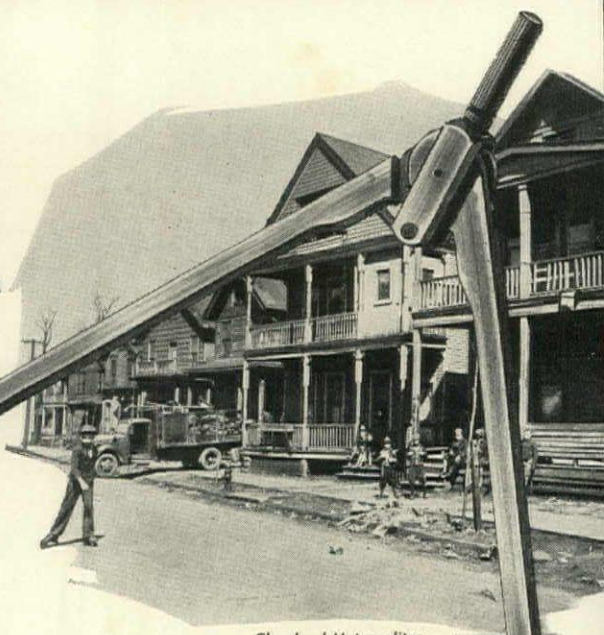
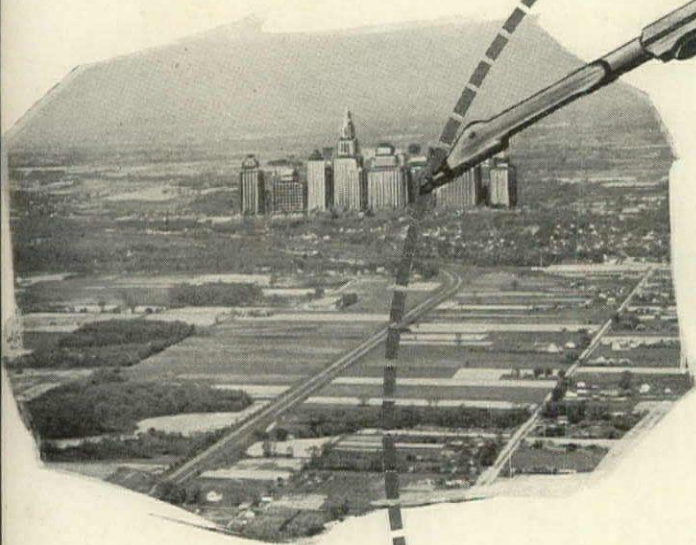
101 PARK AVENUE, NEW YORK, N. Y.

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**OUT OF THE BLIGHTED AREAS...**

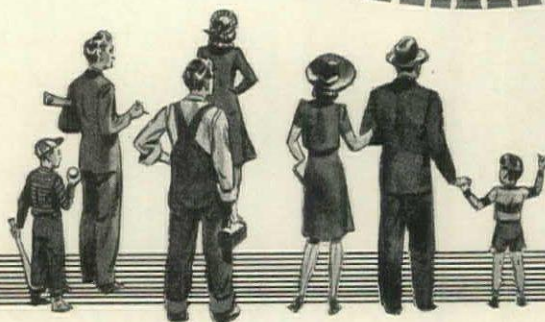
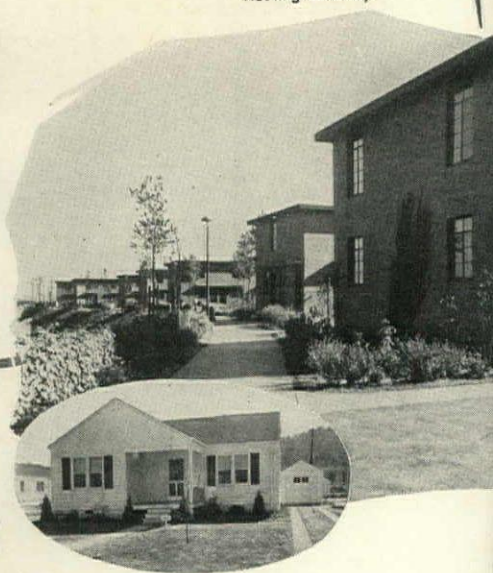


Cleveland Metropolitan  
Housing Authority

**AND IDLE ACRES OF TODAY...**

**MUST EMERGE MODERN HOUSING FOR  
THE MASSES IN THE POST-WAR PERIOD**

Cleveland Metropolitan  
Housing Authority



**Building, Plumbing Drainage Products.**



**T**HE TIME HAS COME for intensive activity in professional planning of housing for the masses. Replanning and rebuilding must be done by all the cities, both small and large. The status of many cities, according to one authority, "is an increasingly grave menace to the economic and social health of the Nation."

So great and so vast is the need of decent, safe, and sanitary housing for the masses that planning the reconstruction of urban centers will have to be done on a scale heretofore unknown in this country. The planning should be initiated now so that this phase may result in the preparation of actual rebuilding projects to provide employment in the post-war period. Preparing rebuilding projects affords opportunity for Government agencies, private industry, and organized labor to cooperate and produce a post-war prosperity and security. Every urban locality presents a wide variety of potential rebuilding projects.

Professional town and city planners are now actively engaged in this work. But hundreds of additional planners must be trained, and it is already late for this sort of preparation. Where there are professional planners available, planning commissions should be promptly organized and authorized and empowered to enter upon the research and replanning phases so that locations for housing for the masses may be wisely determined and selected.

You professional men of the building and construction industry are confronted by an opportunity that is also a responsibility. You are the men who have the vision, the trained ability, and the experience to organize and vitalize and manage this research and planning work. You

are practical. You know the nature of many of the problems that will challenge you, and it is your duty to your city, your community, and your country to engender the cooperative activity of architects and engineers, civic groups, contractors, and building money factors to work with Government agencies and private industry and organized labor to build a better America.

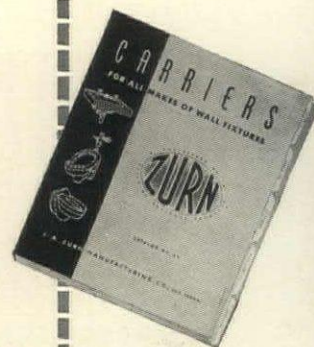
Much has been accomplished that provides guidance for the preliminary phases of this work. Many public, governmental, and professional organizations, and agencies are continually active conducting research and planning for urban reconstruction. Among them are the National Resources Planning Board, National Planning Association, American Society of Planning Officials, Federal Housing Administration, which offers "A Handbook on Urban Re-development of Cities in the West," Federal Works Agency, and many others. Avail yourselves of this factual information that can bring your thinking into adjustment with the social and economic phases pertaining to housing for the masses.

The entire Zurn organization is keyed to the policy of stimulating project planning for post-war urban reconstruction. Our research and engineering activities keep us in touch with much of what is being done along this line. Such factual information as we have compiled on organizations, commissions and agencies that are active in this work is available to you upon request. Architects and engineers and others, whom they may identify, are invited to send for our portfolio entitled, "A New Era For Building Is Only Marking Time."

**J. A. ZURN MFG. CO. • Sales Office and Factory, ERIE, PA., U. S. A.**



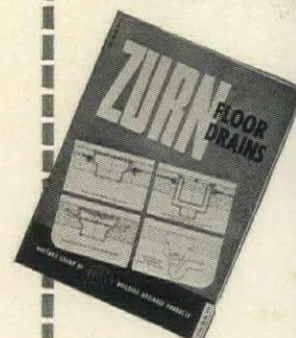
Zurn Engineers in their specialized field are on the alert, researching, inventing, designing to meet new needs that urban reconstruction will require. They are making and testing one device after another in a continuous endeavor to improve building and plumbing drainage systems. Their job is to supply Engineered Protection for human health in modern structures. Not for one moment are they in any way neglecting the performance of a vital service to the winning of the war. Indeed, they are helping to speed the construction of war production plants and housing for war workers. But to neglect the development of new devices for a new era of building would be unthinkable. While at war, we should prepare for peace.



Zurn Engineered Carriers afford 4-Point Protection for wall fixture installations.



Zurn Roof Drains are available for every type of roof construction.



Zurn Floor Drains and Accessories meet every floor drainage requirement.



Zurn Plumbing Drainage Fittings include every item required for the installation of plumbing drainage systems.

**ROOF TO BASEMENT**



J. A. ZURN MFG. CO., ERIE, PA., U. S. A.

Please register my name and the names of individuals and organizations attached, to receive a copy of the portfolio entitled, "A New Era For Building is Only Marking Time," of which I understand a limited number will be available when printed.

Name ..... Position .....

Company .....

Address .....

City and State .....

No. 4217

Please attach to your business letterhead



# MODERNIZATION WITH MIRRORS

doubles room's size and receipts



*The Glass Slipper, Fort Meigs Hotel, Toledo, Ohio*

Look closely. You might guess this to be the main bar lounge of a large Manhattan hotel. Actually, this modernized cocktail lounge of Toledo's Fort Meigs Hotel is small in size, seating a total of 65 people at bar and tables.

You are looking at a reflection of the room in its large, polished plate glass mirrored wall. The table tops, too, are of plate glass, indirectly lighted, and specially sandblasted—being shallower near the light source and deepened near the edges. The entire effect of this modernization with mirrors and glass appointments gives this room an illusion of spaciousness double its actual size. But there has been no

illusion about the increased business . . . more than 150 per cent greater receipts since modernization.

Here is an outstanding example of the modern possibilities in design through use of mirrors. But remember, the first essential of a quality mirror is a quality glass. Your best assurance is to specify Libbey-Owens-Ford Polished Plate Glass. For the extremely smooth, polished finish of L·O·F Plate Glass, its clarity and greater freedom from distortion are essential qualities of a perfect mirror. Libbey-Owens-Ford Glass Company, 1325-A Nicholas Building, Toledo, Ohio.



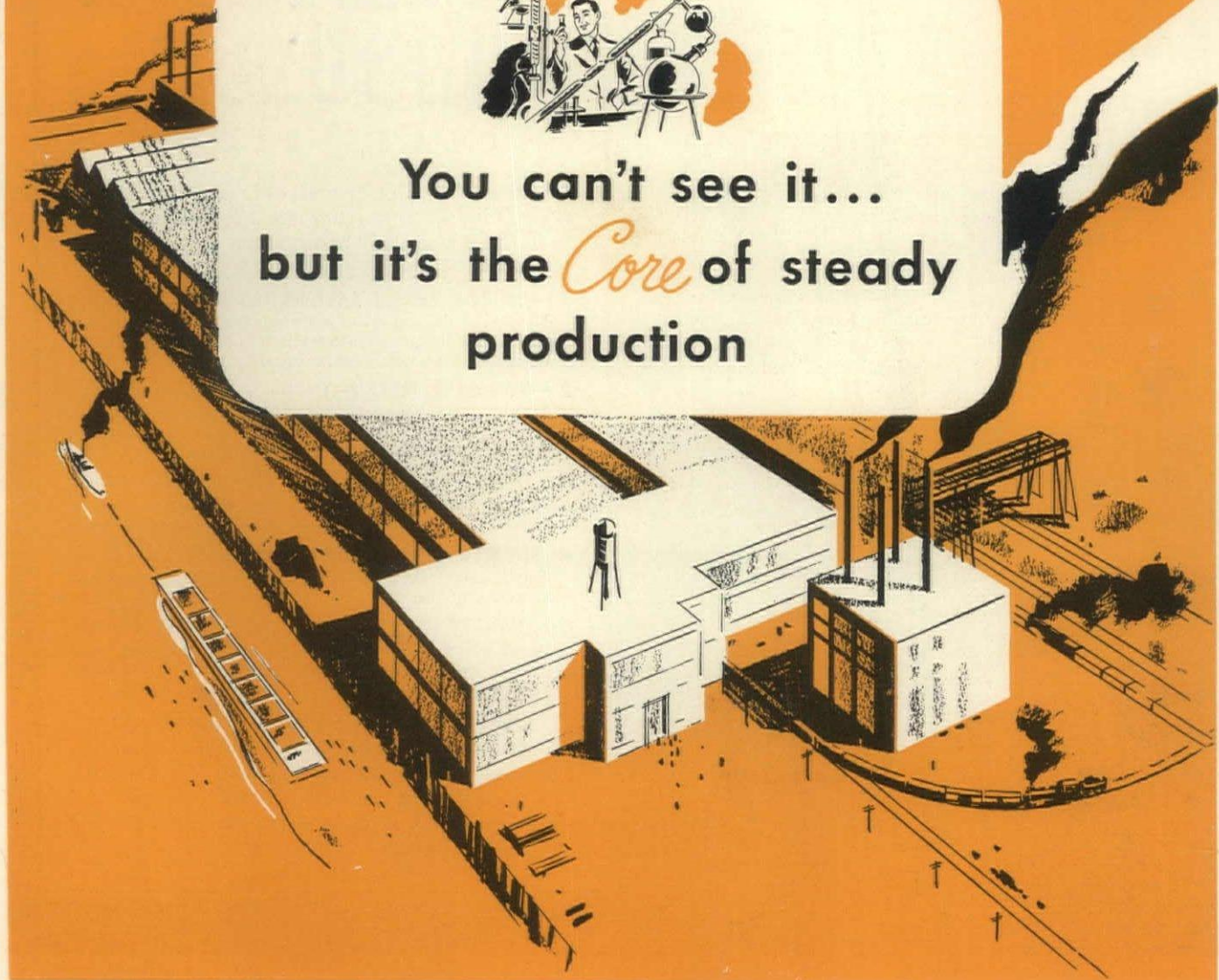
**LIBBEY·OWENS·FORD**

QUALITY *Flat Glass* PRODUCTS





You can't see it...  
but it's the *Core* of steady  
production



**It's the refinements...the benefits of patient research...the quality...of the electrical wires and cables upon which uninterrupted operation depends.**

In electrical wires and cables, the "tremendous trifles", the never-heard-of-improvements, small as many of them are, are lengthening the period between "begin operation" and "breakdown". They are safeguarding *steady* production... they have been built to keep pace with 3-shift operation.

Anaconda research has developed scores of product improvements and many completely new products that are today meeting these critical demands. Their improved constructions deliver greater capacities with less power loss, their insulations can withstand high heat, corrosion, abrasion. The research that built these wires and cables continues at a fast pace. Now in addition to delving into experiments for improvements in industrial products, Anaconda is devoting much of its

research to wiring for residential and commercial building.

**When peace returns, adequate commercial and residential wiring will need your attention.**

The electrical future will place greater demands than ever before on those in a position to make wiring selections. Anaconda will cooperate with architects with information and with products measuring up to their specifications.

42224



This familiar trade-mark symbolizes the best efforts of modern research and production.

ELECTRICAL WIRES AND CABLES OF COPPER ARE THE LIFE LINES OF OUR NATION

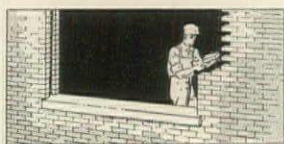
## ANACONDA WIRE & CABLE COMPANY

*Subsidiary of Anaconda Copper Mining Company*

GENERAL OFFICES: 25 Broadway, New York City • CHICAGO OFFICE: 20 North Wacker Drive • Sales Offices in Principal Cities

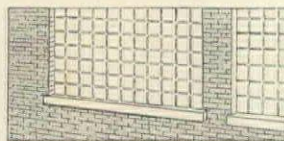


## HOW TO INSTALL INSULUX IN OLD BUILDINGS

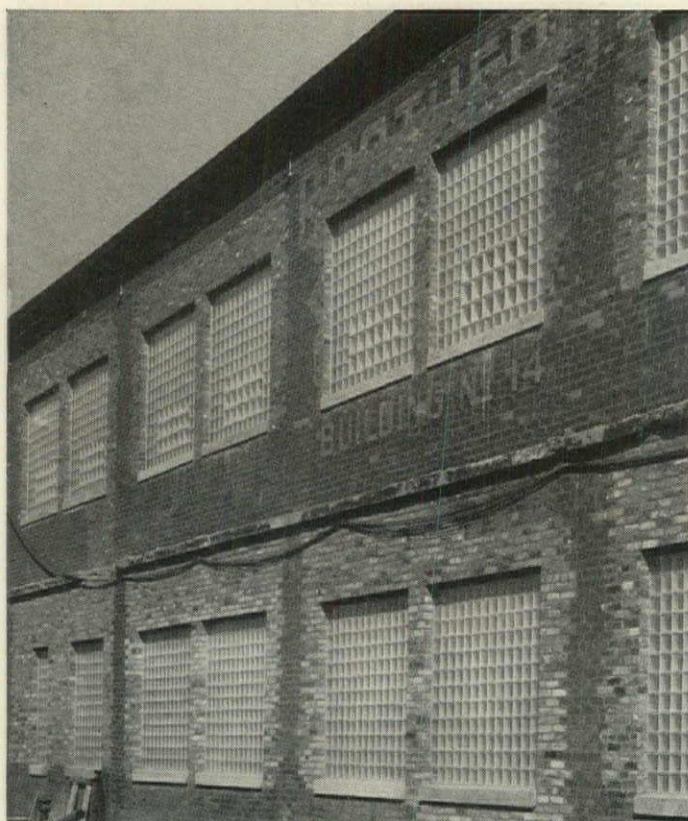


Build a chase in existing walls or with wood blocking.

Any competent mason can install INSULUX panels. The corrugated bearing edges on INSULUX bite into mortar, give block a firmer grip.

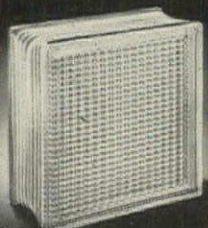


Finished panel transmits diffused daylight, protects war work from prying eyes, pays dividends on reduced maintenance.



**NORTHERN OHIO**—40 year old building enlists for war duty. Insulux panels provide diffused daylight illumination, good insulation, and bar dust and dirt infiltration. (Note new No. 70 block with smooth interior and exterior faces for limited vision.) Job took 6 weeks.

### INSULUX SERVES WAR PRODUCTION



**Saves Critical Materials**  
Fireproof—Noncombustible  
High Insulating Value  
Efficient Light Transmission

A new tested technique for construction, maintenance, and rehabilitation with INSULUX is completely described in the free booklet, "Alternate Construction Details." Send coupon at right today for your copy.

## DRAFT OLD BUILDINGS FOR WAR DUTY WITH INSULUX GLASS BLOCK

INSULUX Glass Block panels offer *five timely advantages* as light transmitting areas for old buildings drafted for war duty and for new plants needing fast construction:

### 1—INSULUX PANELS ARE ERECTED BY BRICKLAYERS

In the rehabilitation of masonry building with glass block, the bricklayer does the whole job—the repair of the brick work and laying up glass block panels.

### 2—YOU SAVE METAL—

Under a new technique, INSULUX panels can be installed using little or no critical material. Panels up to 50 sq. ft. in area can be erected without even using wall ties.

### 3—INSULUX GUARDS WAR MATERIALS—

Sturdy INSULUX panels prevent easy entrance by saboteurs and offer the additional protection of being fireproof.

### 4—IMMEDIATE DELIVERY OF INSULUX

Glass Block to meet requirements is possible in most sections of the country.

### 5—INSULUX HAS NOT ADVANCED IN PRICE—

Because glass block is made of native materials and its use has greatly expanded, INSULUX is available at prewar prices.

### Other advantages of INSULUX Glass Block:

*Efficient Daylighting . . . High Insulation Value  
Reduced Surface Condensation . . . Low Maintenance  
Reduced Dust, Dirt and Moisture Infiltration  
Privacy . . . Limited Vision with Special Clear Block*

OWENS-ILLINOIS GLASS COMPANY, INSULUX Products Division, Department 56, Ohio Building, Toledo, Ohio.

Please send me, without obligation, your free book entitled, "Alternate Construction Details" showing how to save metal and aid war construction and full information on INSULUX Glass Block.

Name \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_

State \_\_\_\_\_







● An extra room in the attic or basement—beautiful new wood-panelled walls or ceiling in *any* room or office that needs remodeling—low-cost *new* housing that must go up in a hurry—these are the jobs where Mengelbord is your one *perfect* choice among all panelling materials!

● And that's not mere advertising talk. Mengelbord is genuine *hardwood* plywood, 1/4" thick, made in big 48"x96" sheets, with the grain running the *long* way. It is resin-bonded in hot-plate presses—is strong, sound and moisture resistant. Genuine hardwood, it is free from grain-raising, and can be either painted or finished in its natural wood-grain. Equally

important, it is *immediately available*, with faces of Gum, Mahogany, Walnut, Birch or Oak.

● Whatever your needs for beautiful, inexpensive walls or ceilings, it will pay you to investigate Mengelbord. If your regular supplier cannot give you samples and quotations, mail the coupon below. No obligation, of course.

The Mengel Company, Incorporated  
1126 Dumesnil Street  
Louisville, Ky.

Gentlemen: Please send me full information about Mengelbord ☐. Also about Mengel Flush Doors ☐.

Name \_\_\_\_\_

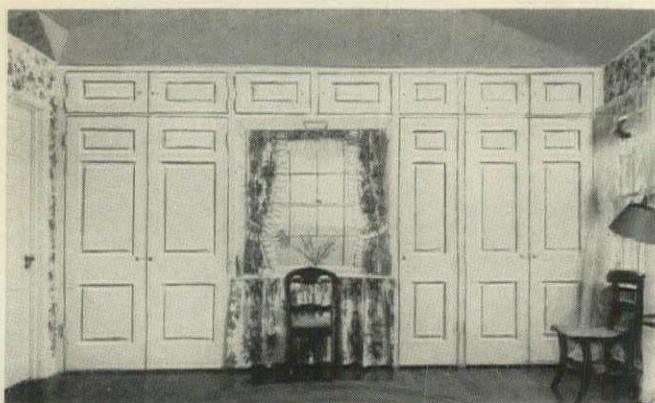
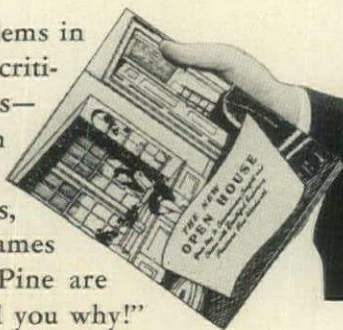
Street \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



## "HERE'S HOW I PREVENT WARTIME 'HEADACHES' IN BUILDING—"

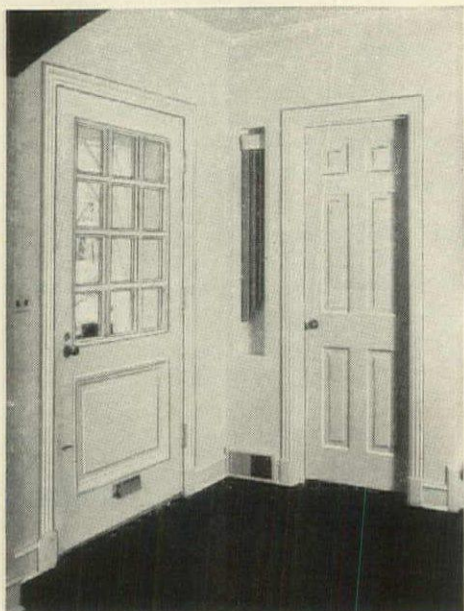
● "There are plenty of problems in building today. Shortages of critical materials—cost restrictions—the need for extra speed in construction—are just a few. In meeting these conditions, I've found that stock doors, frames and windows of Ponderosa Pine are an invaluable aid. Let me tell you why!"



**NON-CRITICAL—QUICKLY AVAILABLE**—Note how the Ponderosa Pine window, door and roomy closets create new charm, and make this room more useful. Even though Ponderosa Pine is so extensively used in defense housing, it is available for private remodeling also. With remodeling costs restricted, the versatility of Ponderosa Pine woodwork assures your getting styles adaptable to any architectural design.

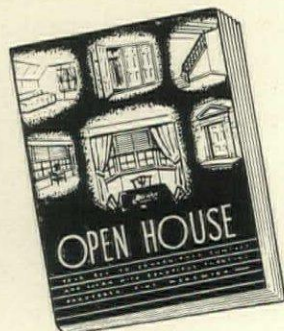


**LOW IN COST—HIGH IN VALUE**—Windows can make all the difference in a home! In the room above, notice how the windows make the room look larger—a valuable device where space is limited. Notice, too, the storage area which Ponderosa Pine provides in the window seat. The Ponderosa Pine door makes it possible to shut off the adjacent room, if desired, to conserve fuel. All of this can be done at *low cost*.



**GREATER SPEED—PLUS GREATER CONVENIENCE**—A wide selection of well-constructed, appropriately styled doors, frames and windows of Ponderosa Pine will help you speed the job of building today—will help you increase convenience without increasing cost. In this hallway, for example, note the architectural beauty of the two doors—and the convenience of having a big, roomy closet adjacent to the entrance door!

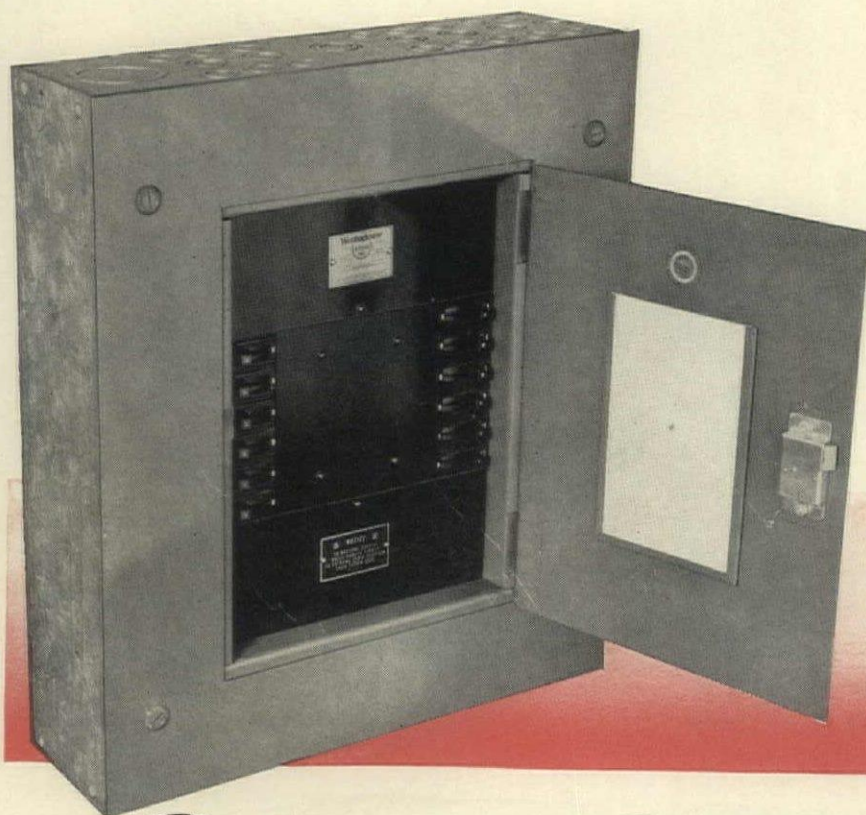
**FULL OF PRACTICAL IDEAS—THE NEW "OPEN HOUSE"**  
It's crammed with ideas that fit today's needs and conditions—ideas that are a definite aid in building and remodeling for the duration, and after! This new edition of "Open House" is a revised and authentic version of the book that has created a sensation with the public. You'll find it a valuable idea-source to keep in your file—and to use. Write for your free copy! Ponderosa Pine Woodwork, Dept. XAF-7, 111 W. Washington St., Chicago, Ill.



# Ponderosa Pine

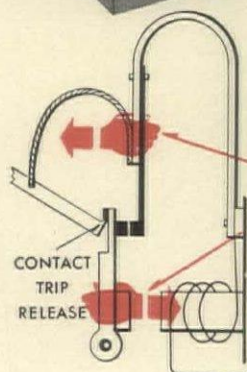
## WOODWORK



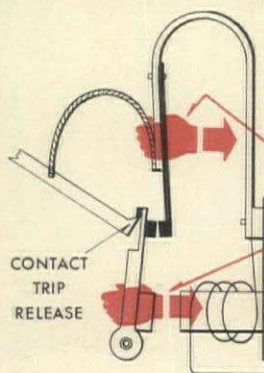


## 2 TYPES OF ACTION

to meet **ALL THREE** requirements of lighting and appliance circuit protection



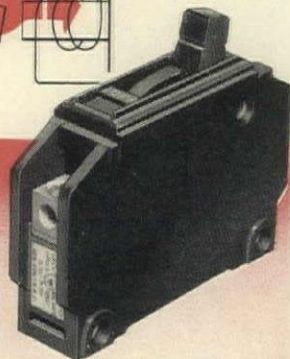
ON MOMENTARY OVERLOADS  
BIMETAL OPPOSES  
MAGNETIC PULL



ON SUSTAINED OVERLOADS  
BIMETAL COOPERATES  
WITH  
MAGNETIC PULL



ON SHORT CIRCUITS  
MAGNETIC ACTION ALONE  
TRIPS BREAKER INSTANTLY



Two hands are better than one—particularly when they work together.

That's the key to the improved protection of the new Westinghouse QUICKLAG Panelboard. It combines *two* interrupting principles to meet *all three* requirements of lighting and appliance circuit protection.

These two principles are: "magnetic"—simply an electromagnet, and "thermal"—a Bi-metal strip which acts as a spring, but bends when heated. By their co-operative action, you get maximum circuit protection with a minimum number of circuit interruptions.

**NO UNNECESSARY TRIPPING ON HARMLESS OVERLOADS.** Bi-metal does not have time to heat on short-time overloads. Spring action, therefore, opposes pull of the magnet, delays trip action on normal starting inrush currents (such as type C lamps or appliance motors).

### BURN-OUT PROTECTION ON SUSTAINED OVERLOADS.

On continued overloads, Bi-metal heats, bends, relaxing spring tension. As overload increases, pull of the magnet becomes stronger. Thus either one, or the *co-operative* action of both, may trip the breaker.

**INSTANTANEOUS PROTECTION ON SHORT CIRCUITS.** Short circuits energize the magnet with sufficient force to overcome Bi-metal spring tension, break the circuit instantly.

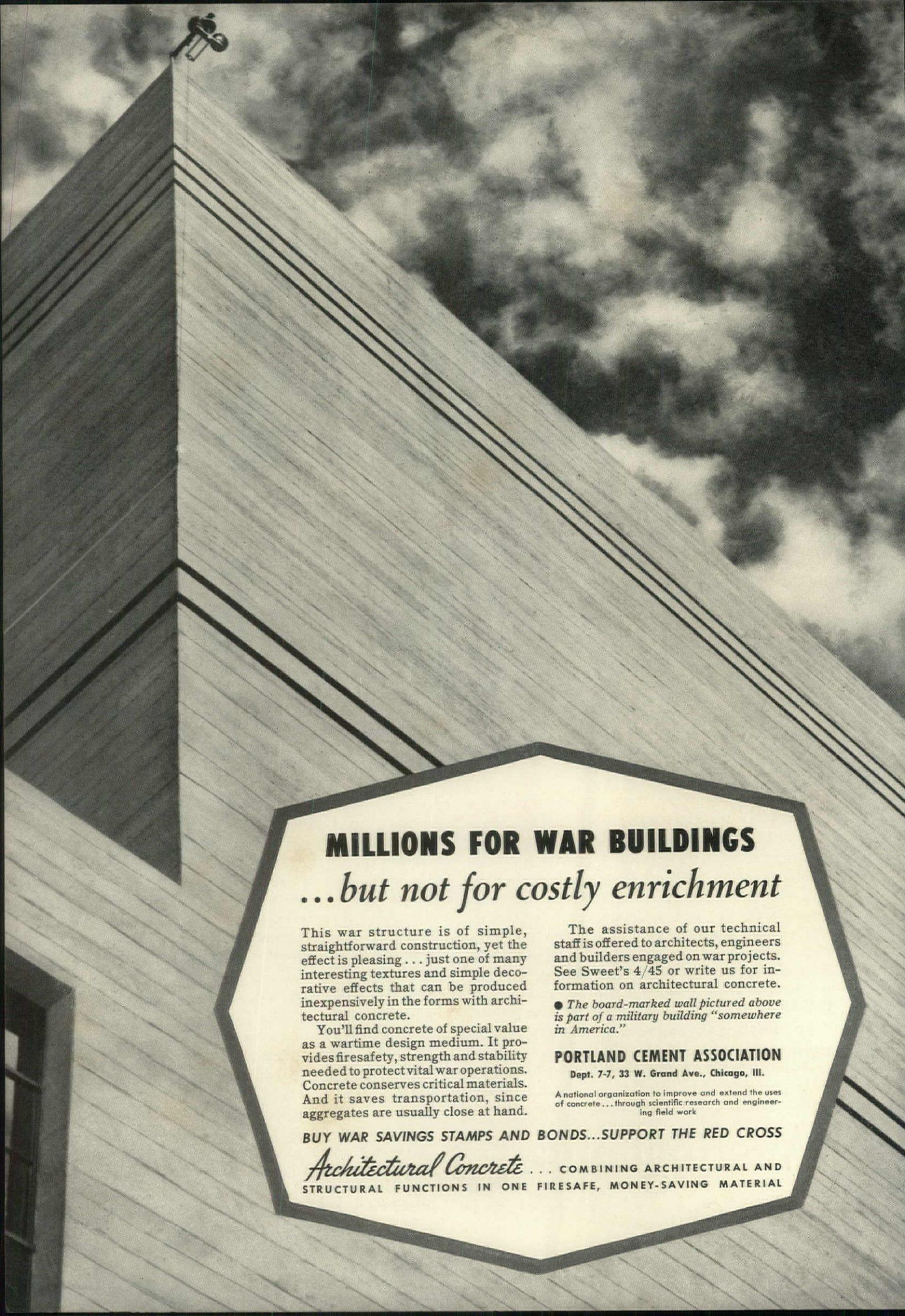
With the QUICKLAG Panelboard, Westinghouse provides the two improvements which engineers, architects, and electrical contractors recently voted as most desirable in 15 to 35 ampere breakers—*faster operation* on short circuits and *lower cost* without sacrifice of quality. Ask your Westinghouse representative for prices and a delivery date. Westinghouse Electric & Mfg. Co., East Pittsburgh, Pa.

J-60515

# Westinghouse

**NOFUZE CIRCUIT PROTECTION**





## MILLIONS FOR WAR BUILDINGS ...but not for costly enrichment

This war structure is of simple, straightforward construction, yet the effect is pleasing . . . just one of many interesting textures and simple decorative effects that can be produced inexpensively in the forms with architectural concrete.

You'll find concrete of special value as a wartime design medium. It provides firesafety, strength and stability needed to protect vital war operations. Concrete conserves critical materials. And it saves transportation, since aggregates are usually close at hand.

The assistance of our technical staff is offered to architects, engineers and builders engaged on war projects. See Sweet's 4/45 or write us for information on architectural concrete.

● *The board-marked wall pictured above is part of a military building "somewhere in America."*

### PORTLAND CEMENT ASSOCIATION

Dept. 7-7, 33 W. Grand Ave., Chicago, Ill.

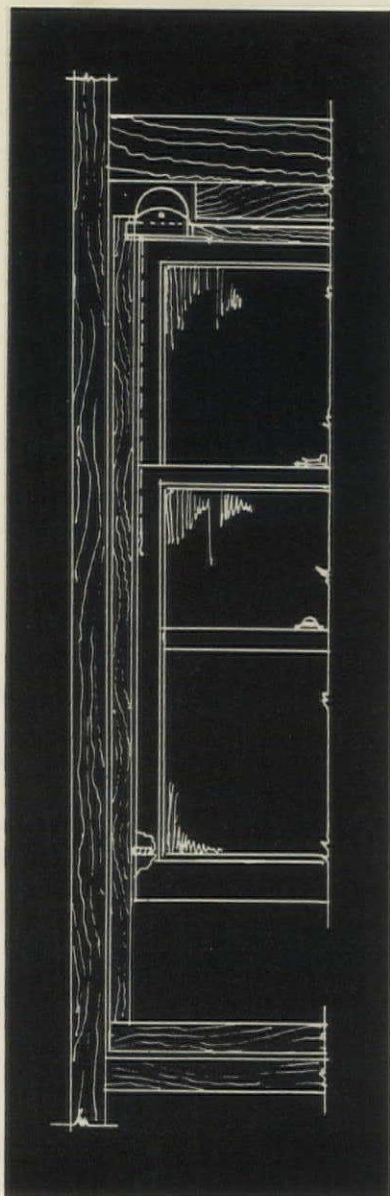
A national organization to improve and extend the uses of concrete . . . through scientific research and engineering field work

BUY WAR SAVINGS STAMPS AND BONDS...SUPPORT THE RED CROSS

*Architectural Concrete* . . . COMBINING ARCHITECTURAL AND  
STRUCTURAL FUNCTIONS IN ONE FIRESAFE, MONEY-SAVING MATERIAL

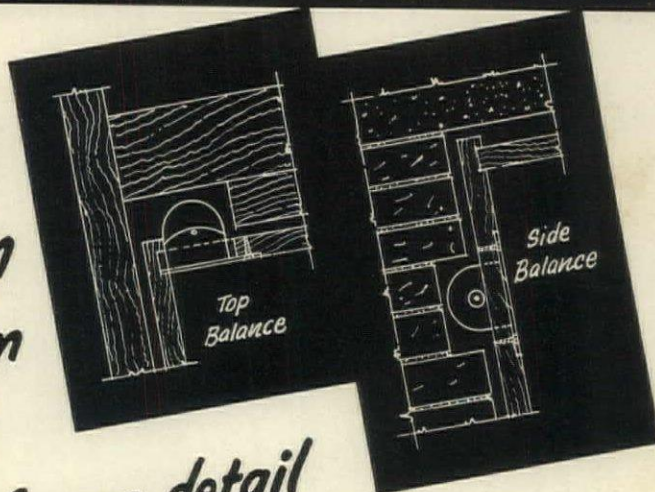


FOR WAR HOUSING ... AND ALL DOUBLE-HUNG WINDOW CONSTRUCTION ...



**LEAVE  
Head Room  
or Side Room  
ON**

**window frame detail  
... to assure construction  
THAT**



**SAVES CONSTRUCTION TIME . . . . .  
CUTS COSTS . . . . .  
ASSURES TOP WINDOW PERFORMANCE**

● Use of Pullman Unit Sash Balances in all double-hung window construction offers notable advantages in reduced cost, faster construction, and in superior window performance; a Pullman-Balanced window moves freely, easily, stays closed or open at any position, without depending on sash-to-frame friction or spring adjustments, and requires no lengthwise ploughing of sash stile.

But for construction utilizing Pullman Balances *your detail must allow headroom* above the top rail—between top jamb and header. For concrete-lintel, or other construction where headroom is not feasible, Pullman Side-Type Balances are equally efficient; they require side room as detailed above. Both construction details are equally suitable for use with all types of balances.

#### ONE BALANCE PER SASH

● For double-hung windows of sash width not over 2' 10 1/2", single-balance-per-sash-with-equalizer construction is being successfully used by many Housing Authorities, following detail suggested above. Such construction cuts balance costs in half, besides saving on millwork and installation time—a worthwhile money-saver on War Housing Jobs.

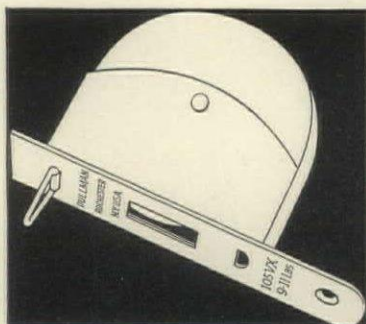
#### DESCRIPTIVE LITERATURE AND DETAIL SHEETS

● Write for literature on the family of Pullman Balances. Type "V" is built expressly for today's war housing and offers lowest price of any balancing arrangement. Other models, suitable for industrial building use, are capable of balancing windows up to 210 lbs. sash weight.

Pullman Manufacturing Corporation, Dept. B-7, 1170 University Avenue, Rochester, N. Y.

#### IMMEDIATE DELIVERY

● Pullman is one of eight manufacturers of tape-type spring balances, quickly available, suitable for, and recognized in specifications for War Housing construction. All require headroom. Leave headroom on your drawings and you open the way to free competition on sash balances.

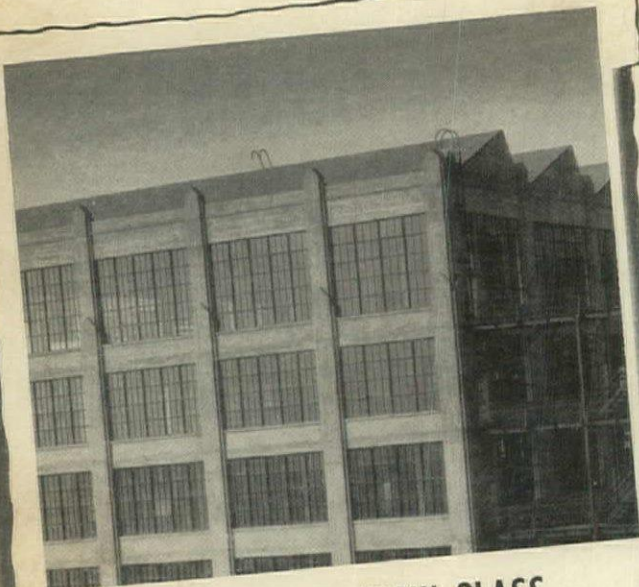


**PULLMAN**  
*Sash Balances*



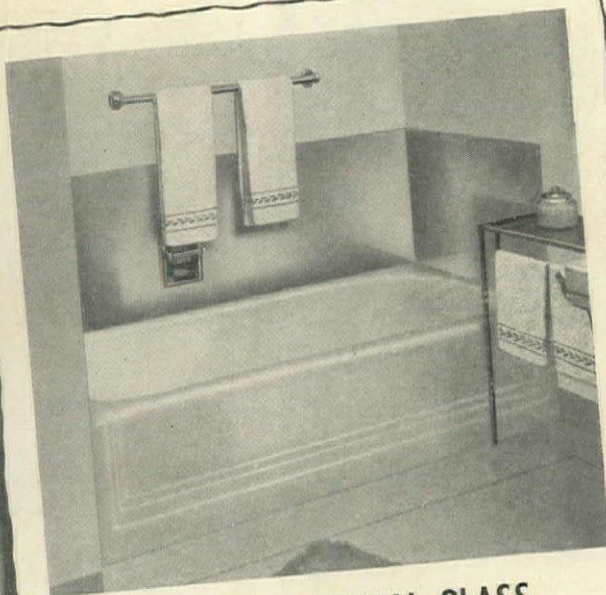
To fill your wartime needs . . .

# "Pittsburgh" Glass!



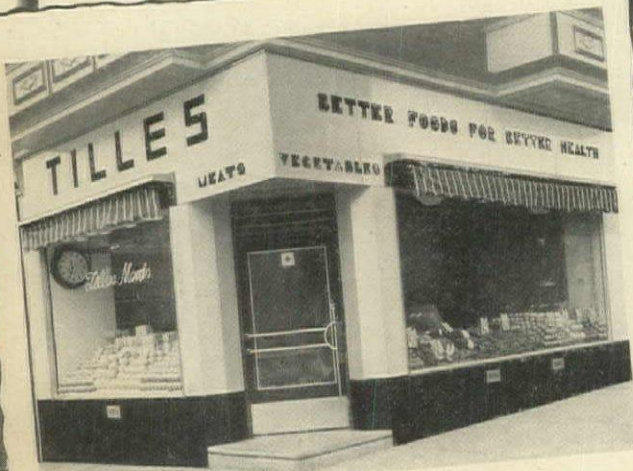
## PENNVERN WINDOW GLASS

This quality window glass, with its unusual clarity, good vision and surface brilliance, is ready to help you design war factories flooded with natural daylight and to glaze defense houses at reasonable cost.



## CARRARA STRUCTURAL GLASS

Now, for the first time, available in Ready-Built Panels, prefabricated at the factory for tub recesses, shower enclosures, and stove backings of low-cost homes. These Ready-Built panels speed up construction, save substantially on labor costs and give the defense home the beauty of Carrara at a cost no higher than that of ordinary materials.



## PITTCO STORE FRONT PRODUCTS

Still available, including selected Pittco Metal shapes. Ideal for designing sales-building fronts for "neighborhood" stores, now revitalized by changing shopping habits. Only Government restrictions: front must cost less than \$5,000, involve the use of no critical materials.

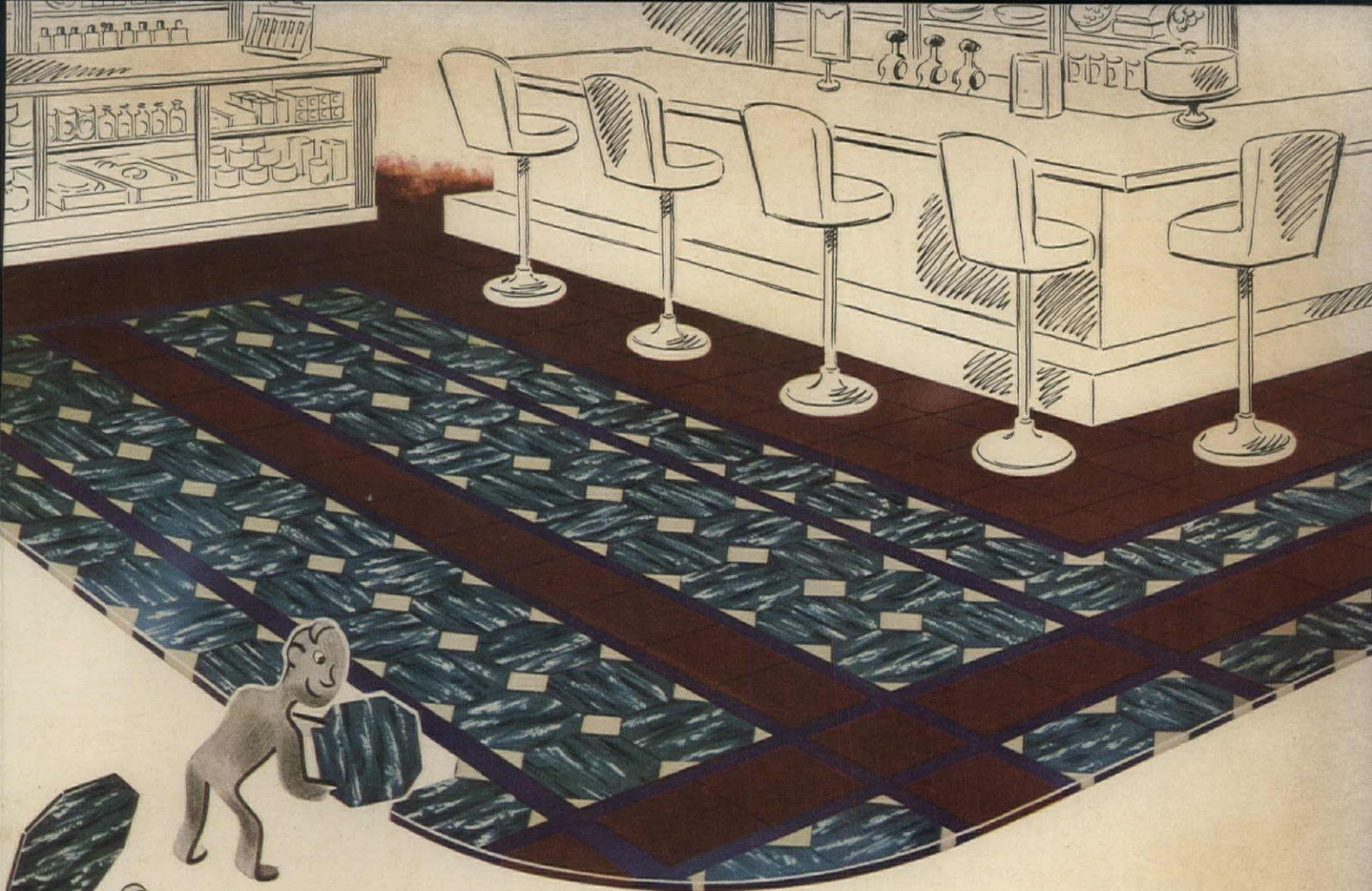
IF you desire detailed information on any of the "Pittsburgh" Products mentioned here, we will gladly supply it upon request. And if you are confronted with any problem concerning flat glass which we can help you solve, we urge you to call upon us. Address Pittsburgh Plate Glass Company, 2089-2 Grant Building, Pittsburgh, Pa.

**"PITTSBURGH"**

*stands for Quality Glass and Paint*

# PITTSBURGH PLATE GLASS COMPANY





What's your interior traffic problem? Want to attract bigger crowds? Multiply the appeal of any place with Kentile's wonderful colors and endless designs. Do shuffling crowds attack your floors daily? Kentile's colors can't wear off. They go right through to the back. Dirt is removed by simple mopping. Want to remodel with extra speed and extra economy? Learn ALL about this new low cost floor that is speedily laid piece by piece. Just a few of its outstanding advantages are:

1. Kentile, although resilient, is one of America's most durable floorings—practical even in factories.
2. Kentile is one of the lowest cost floors made.
3. Kentile is moistureproof—perfect even on basement concrete in direct contact with earth.
4. Kentile resists almost any kind of staining.
5. Kentile is laid with amazing speed—is available immediately—is installed by authorized contractors in any part of America.
6. Kentile offers a million patterns—any design you conceive with its 44 colors, 15 tile sizes.
7. A Kentile floor can be altered in any part—without disturbing the other areas.

**KENTILE**  
Asphalt Tile  
Trade Mark Reg.



## GREASE won't stain

special Greaseproof Kentile. It costs only slightly more—can be used only where needed—matching 16 of Kentile's regular colors perfectly. Test it yourself. Check "grease tester" on the coupon or, better yet, send for a representative without any obligation.

Learn all the other advantages of Kentile—its foot comforting resilience—its sure-tread surface—etc. Without obligation, send for our full color informative catalog NOW

DAVID E. KENNEDY, Inc., Dept. F.  
58 Second Avenue, Brooklyn, N. Y.  
Send ☐ Catalogue ☐ Grease Tester ☐ Representative

NAME.....

ADDRESS.....

CITY, ETC.....





## GOLD BOND ONE INCH SOLID PARTITION PANELS

**T**O meet the needs of architects planning wartime buildings, National Gypsum research engineers have perfected a new type of partition that conserves critical war materials; can be erected quickly with fewer workmen; is exceedingly rigid and sturdy, yet readily demountable for salvage.

The secret of this new system is found in Gold Bond's new 1" Solid Partition Panels. The strength of this improved gypsum board is more than *three* times greater than standard  $\frac{1}{2}$ " gypsum wallboard! It's fireproof, of course, and proof against expansion, contraction and warping! The new system is simplicity itself. Four foot wide panels of this new, stronger board are placed in a framework of 2 x 4's, spaced 4' apart, and held permanently in position by standard wood moldings. No special tools or specially-trained workmen are necessary; erection goes along faster with fewer men and less critical material; and no further decoration is necessary for smart appearance. The finished partition costs less, lasts longer, withstands abuse, resists dampness and climatic changes, and is easily moved or salvaged.

### FIRST WITH NEW IDEAS!

This new demountable partition system is another example of how Gold Bond is always first with new and better ideas in



wall and ceiling construction. For 16 years National Gypsum research has concentrated on bringing the industry better products and improved construction methods.

This policy has given architects and builders better materials, such as the first lightweight gypsum wallboard. It has produced superior construction methods, like the Gold Bond Floating Wall System; and it has developed a complete line of more than 150 Gold Bond products for every wall and ceiling use.

Today, 300 trained Gold Bond representatives and more than 10,000 dealers are ready to serve you with products from 21 modern Gold Bond plants . . . all backed by the resources and reputation of a single reliable manufacturer, National Gypsum Company, Buffalo, New York.



**QUICKLY ERECTED.** Just put up framework, spacing studs 4' apart, then 1" Solid Partition Panels, and lock in place with wood moldings. No special tools or training needed, and finished partitions are sturdy enough for 20 years of hard service.



**DEMOUNTABLE.** By merely removing the stock molding around the framework, you can quickly and easily salvage the new Gold Bond 1" Solid Partition Panels, unmarred and ready for reuse—or for resale at a good price.



**BUILD BETTER WITH**

# Gold Bond

*Everything - for walls & ceilings*

More than 150 products including  
WALLBOARD...LATH...PLASTER...LIME  
METAL PRODUCTS...WALL PAINT  
INSULATION...SOUND CONTROL

### Producing units at:

NEW YORK, N. Y. . . . CLARENCE CENTER, N. Y. . . . AKRON, N. Y. . . . PORTSMOUTH, N. H. . . . NATIONAL CITY, MICH. . . . FORT DODGE, IA.  
MEDICINE LODGE, KAN. . . . ROTAN, TEX. . . . SAVANNAH, GA. . . . LUCKEY, O. . . . BELLEFONTE, PA. . . . YORK, PA. . . . ORANDA, VA.  
SALTVILLE, VA. . . . NILES, O. . . . MOBILE, ALA. . . . NEWBURGH, N. Y. . . . ALEXANDRIA, IND. . . . DUBUQUE, IA. . . . DOVER, N. J.



## THE MONTH IN BUILDING . . . NEWS

Housing makes paper progress as Blandford defines his program and 460,000 more units are projected for 1942 (this page), but new stoppers tighten bottlenecks in Detroit and other key centers . . . Priorities tangle shows signs of unraveling (p. 34), but Willow Run's housing mess thickens (p. 35) . . . New York City pioneers in postwar planning, while Government expert forecasts whopper postwar housing market (p. 35) . . . Army abandons all open bidding, while Navy demands more money for factories (p. 35) . . . Rival builders' associations sign peace pact (p. 36).

## WAR HOUSING &amp; VICE VERSA

June, the month of brides, finally produced the long awaited match between Congress and the war housing agencies. NHA Administrator Blandford made his formal proposal and at month's end odds were high that Fritz Lanham's Committee would say yes, at the same time providing a \$600 million dowry. Herbert U. Nelson of the National Assn. of Real Estate Boards appeared as a coy and promising candidate for best man.

But if Blandford and his chief aides had cause to blush over Congressional advances, they might too have blushed a deeper hue over continued trouble in Detroit, Norfolk (see FORUM, June, p. 366; this issue, p. 18) and other vital production areas. Not only was their authority challenged at Willow Run (see p. 35), but reports continued to flood in of thousands of partly finished houses standing idle for need of materials. So common

was this situation that small hope promised for the participation of private builders in the new program until positive assurance could be given that houses wanted and started could be finished. The question being asked is, Can Blandford's and FPFA's Herbert Emmerich's undoubted talents and administration and conciliation give them the drive needed for the action needed to produce the housing needed now? July should answer.

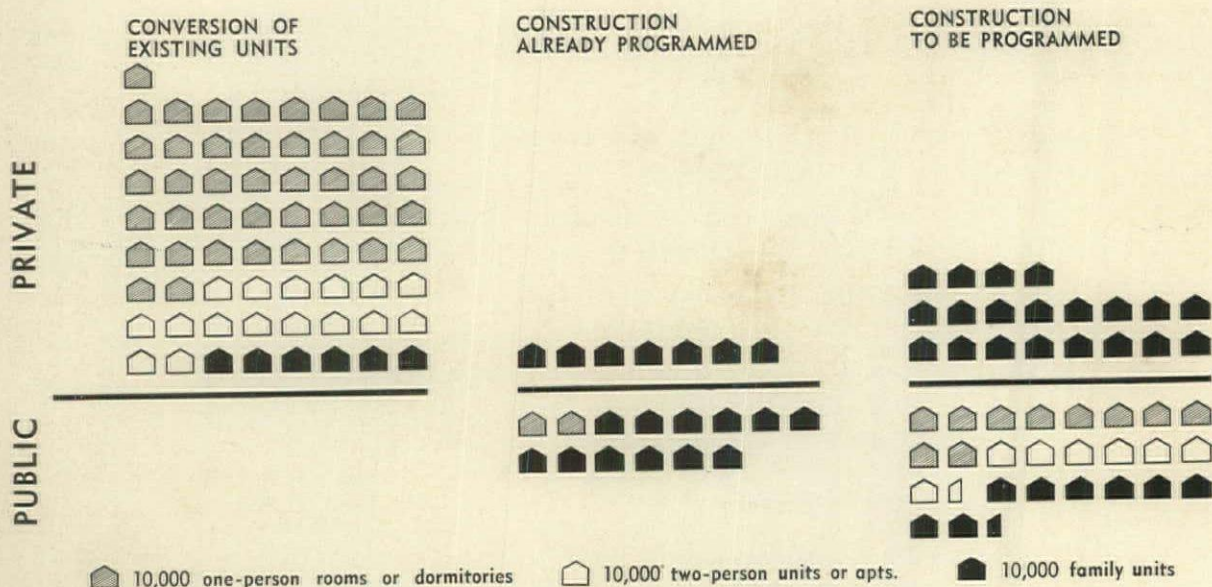
**Lanham hearings.** All has been sweetness and light, so much so that Congressmen now refer to the dark days of housing as B.B.\* Only sour note has been the testimony of War Manpower Commission's Housing Consultant Joseph P. Tufts. Although Blandford's figures have been worked out in collaboration with WMC, this agency now thinks the NHA estimate of single workers trekking to war produc-

\*Before Blandford.



**UNITED NATIONS' NO. 1 WAR PLANT DESIGNER**—thus the A.I.A. convention in Detroit labeled Albert Kahn on presenting him a special medal, first award of its kind since the Institute was founded in 1857. The honor is well earned: from Willow Run to Yakutsk can be found factories sprung from the boards of his vast organization (now 600 up and still growing). Last year alone the Kahn office rolled out blueprints for an unprecedented 20 million square feet of industrial construction. In accepting the Institute's medal, Kahn predicted vast building of factories in the postwar era. Reason: in postwar industry old plants will not be able to compete with new.





## BLANDFORD'S HOUSING PROGRAM

tion centers is too high, its estimate of workers with families too low. Reason: as the armed services absorb an increasing number of single men, there will be a corresponding step-up in the hiring of married men with families. Field reports indicate the larger war plants are already anticipating this trend; personnel divisions have been instructed to stop hiring single men of military age and to take on more women and older men. Therefore, argues Tufts, the none too large housing program should be kept as flexible as possible—in terms of dormitories for single workers vs. houses for families—in order to match changes in war production schedules or in anticipated war manpower requirements.

Heavily weighted in favor of temporary dormitories for single workers, Blandford's proposed program thus presumably would crack under the strain of the newly discovered employment trend. Dormitories are obviously impractical for workers with families. Preferable would be small three-room tourist cabins clustered around a central community toilets-and-laundry such as FHA has suggested (see FORUM, June, p. 351) or temporary family units such as FWA has built in Beaumont, Texas (May, p. 285).

Significantly, Tufts' criticism is only on the evaluation of housing needs. As to the desirability of NHA getting more cash for war housing, the Lanham Committee has heard nary a peep of objection. The old cat-and-dog fight between public and private housers apparently has ended, at least for the duration. By Blandford's pronouncement of policy, the Government takes over only where the demand is temporary or where workers cannot pay prevailing rents; the rest is passed on to private enterprise. This is satisfactory to the real estate boys. Nor do they see any fearsome competition in the Government's new emphasis on temporary construction. Controversy in housing has moved over to the statistical front.

**Blandford's figures.** Altogether, about 12,000,000 new workers are expected to be hired in war centers during the next twelve months. Most of these can be recruited locally, but at least 1,600,000 will swarm from other localities. To accommodate the in-migrants, at least 1,320,000 dwelling units must be provided, assuming some units will house more than one worker.

Up to this point the Government agencies agree. From here on, however, all arithmetic is NHA's own.

The minimum of 1,320,000 dwellings believed needed arbitrarily breaks down into 550,000 single-person units, 235,000 two-person units, 535,000 family units. To meet this demand, five sources of supply are envisioned:

1. Use of existing structures—650,000 units (430,000 single-person, 160,000 two-person, 60,000 family).
2. Public and private construction already programmed—210,000 units (20,000 single-person, 190,000 family).
3. Proposed public construction of temporary dormitories and apartments—175,000 units (100,000 single-person, 75,000 two-person).
4. Proposed private construction of family housing—200,000 units.
5. Proposed public construction of family housing—85,000 units.

Looking at the same figures from another angle: Private builders have a quota of 270,000 units—70,000 already programmed, 200,000 to be programmed. Herbert Emmerich's FPHA, on the other hand, is charged with building 400,000 units—140,000 already programmed (20,000 single-person, 120,000 family), plus 260,000 requiring additional authorization by Congress. (In 1941, by way of comparison, private builders put up 400,000 defense dwellings, the Government 96,000).

Whereas the 200,000 new units allotted to private builders are all intended for permanent construction, the Government's projected 260,000 units will be predominantly temporary. Only 25,000 fam-

ily units are listed as permanent, and even some of these will be demountable.

At \$1,000 a unit for temporary single-person dormitories, \$2,000 a unit for temporary two-person apartments, \$3,000 a unit for temporary family houses, \$4,500 a unit for permanent family houses, the NHA program means spending a total of \$542,500,000. An extra \$58 million allowance to house civilian workers at Army posts and stations brings the grand total to \$600,500,000, which hits the President's requested appropriation practically smack on the noggin, Q.E.D.

**Blandford's finesse.** No change in the Lanham Act is sought—only an increase in its authorization of funds. Parts of the law are awkward, particularly the section limiting war housing to construction with a high salvage value or easily liquidated after the emergency. NHA view, however, is that it is better to struggle along with such requirements than to risk stalling the housing program with renewed debate.

As the Act stands, funds authorized could be used in a variety of ways, thus giving Blandford's program the flexibility demanded by Tufts and the War Manpower Commission. It would be possible even to lease structurally sound vacant buildings—stores, warehouses, meeting halls, so on—and to alter them into temporary family quarters. (This idea, much favored by the WMC, is rapidly gaining ground in Washington. Its big virtue is the saving of time, money and materials. Main drawback: careful control would be needed to make sure undesirable structures are not palmed off on war workers.)

### UNRAVELED PRIORITIES

Fickle as last month's weather, WPB's housing priority policies have also taken a turn for the better. The unstudied, oops-sorry issuance of orders, such as the recent lumber freeze which temporarily halted vital housing projects, is slated to be superseded by a more intelligent co-ordination.



Under the new WPB plan, war housing will be given equal clearance with war plants. This means housing projects will have the same access to needed materials as do the plants, NHAdministrator Blandford told the Lanham Committee. If there are not enough materials to build sufficient housing for a contemplated plant, then the plant's size will have to be reduced until the housing can be geared accordingly.

All essential allotments for a housing project will also be made at one time. Thus the builder gets assurance that he will not find himself halfway through a job and unable to finish for lack of an essential material. Biggest headache-producer on this score have been utility extensions. Regardless of whether power lines were needed for one house or a hundred, the connections have been limited arbitrarily to 250 ft. Result: thousands of new dwellings standing unfinished (see FORUM, June, p. 42). Henceforth, it is understood, priorities for such connections will be issued not only at the same time as other housing priorities but on a new basis—so many pounds of copper per dwelling unit.

**Evacuation note.** Midmonth, WPB's Bureau of Construction, headed by William V. Kahler (see FORUM, MAY, p. 2), suddenly discovered it was out of Washington and roosting in Al Smith's Empire State.

#### BOMB SITE

As conventioning AIArchitects foregathered in Detroit, reports came of a new crisis in the city's muddled housing problem. Local builders would not bid on FPFA's plans to erect permanent units for workers of Henry Ford's mammoth Willow Run bomber plant (see FORUM, April, p. 193), complained that FPFA's Detroit Representative Col. F. Charles Starr would not promise needed materials. Ford himself entered the fracas by chasing Government surveyors off choice farmland he owns in the area to be condemned, called the whole project "unnecessary, wasteful and extravagant."

Reading between the outbursts of conflicting statements which featured the local press, it seemed possible that housing might get sidetracked in a maze of political, social, union and Government squabbles. Ford cannily built his plant just over the Wayne County line in stalwart Republican Washtenaw County. Col. Starr, without protest from the New Dealish UAW-CIO, also picked Washtenaw County as the site for a proposed community of 6,000 permanent houses. Although Starr's adviser, able Tracy Augur, doubtless was prompted by technical considerations, the choice of this particular site is viewed as a threat to an entrenched Republican stronghold and is as displeasing to local politicians as to Ford. Also involved is the question of whether any permanent housing at all should be built now.

If the Colonel goes through to a showdown (in which case Washington will

have to back him completely, since Ford has already interested the Truman Committee in investigating the project), Willow Run may produce the most significant war housing in the U. S. Starr's program calls for five integrated communities of roughly 1,200 units each, all serviced by a central group of community facilities to be designed by Eliel and Eero Saarinen. "Bomber City's" five fingers are in the hands of equally well-known architects Stonorov and Kahn, Skidmore Owings and Merrill, Albert Mayer, Bennett and Hebrard, and CIO's favorite Otis Winn. Plans are proceeding. Informed opinion believes that later if not sooner they will get from paper into three dimensions.

#### POSTWAR PIONEER

To New York go laurels for being the first U. S. metropolis to begin stocking a postwar shelf. Late last month the City council stamped its approval on the City Planning Commission's request (see FORUM, June, p. 56) for \$22 millions to complete plans and specifications for an estimated \$628 millions worth of construction that could be started immediately at war's end. Proposed projects include needed municipal schools, parks, markets, hospitals, transit systems, docks, roads, sewage disposal plants—in short, no boondoggles. To supplement the city's regular planning bureaus, the talents of private architects and engineers are expected to be utilized.

Tip to city fathers elsewhere: New York's planning expenditures do not mean an increase in its capital budget for the new fiscal year. On the contrary, there is a sizable net decrease. Explanation: construction previously scheduled to go ahead has been postponed because of priorities, and this budgetary saving more than offsets the cost of planning additional projects.

#### POST-WAR HOUSING

It will be a whopping big market, U. S. Commerce Dept.'s Construction Chief S. Morrison Livingston indicated to industrialists attending the Producers Council meeting in Detroit (held jointly with the AIA convention). More precisely—4 to 5 million dwellings with a total construction cost of over \$30 billions.

Concluded Forecaster Livingston: "Next to winning the war, postwar planning is the biggest and most important job in sight. It will require the best brains of both Industry and Government."

#### PREWAR HOUSING

File for postwar reference: During the booming Twenties 127 new urban dwellings were built for each increase of a hundred families in U. S. population. But during the Thirties, according to a BLS interpretation of the 1940 Housing Census, the average slipped down to a measly 61 dwellings per hundred new families.

#### SCOREBOARD

Building's not so very merry month of May succeeded nevertheless in turning a few



John Collier, Jr., FPFA

**THIS TRIPLE-PURPOSE STOVE** has FPFA's warm blessings. Developed for two war housing projects in Alexandria, Va., it 1) cooks meals, 2) functions as a furnace for each apartment's hot-water heating system, 3) provides all hot water needed for bathing and washing. Tests made last winter show that it can heat a 6-room house on one pound of coal an hour. Only catch: priority restrictions now prevent its manufacture.

fancy statistical handsprings:

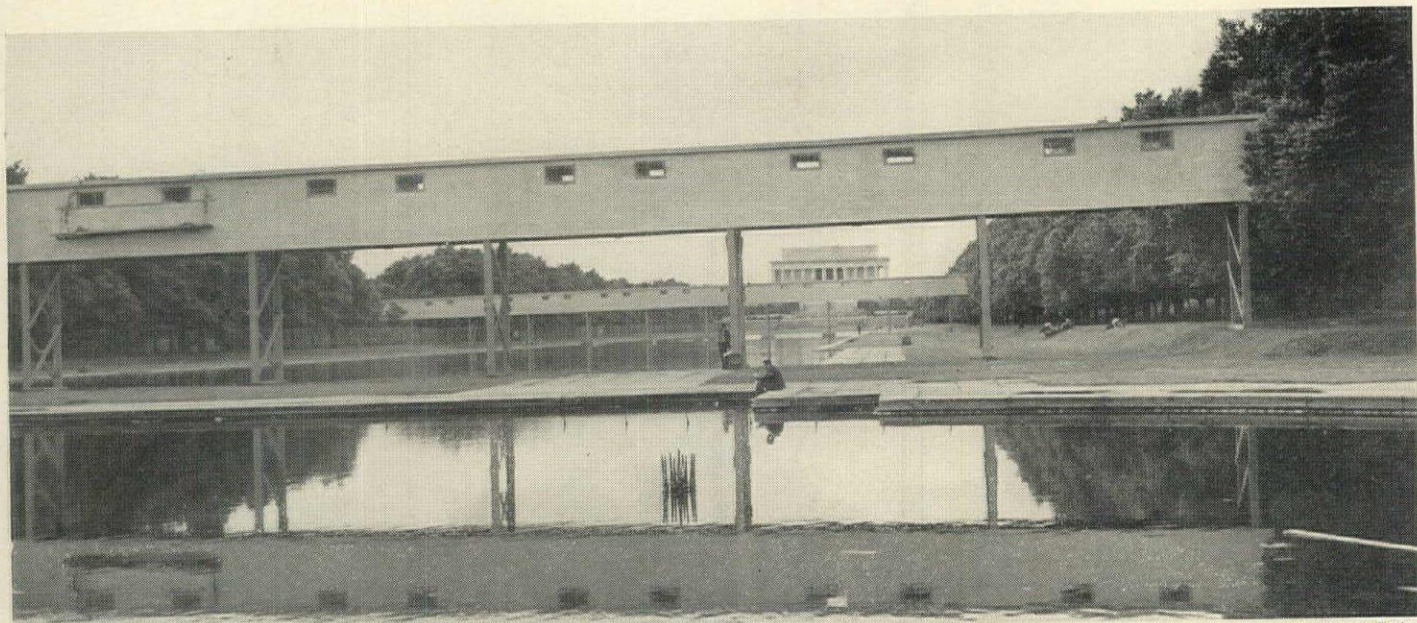
►Construction awards in the 37 states east of the Rockies, according to F. W. Dodge Corp. chart-gazers, totaled \$674 millions. This makes the month the second largest on record, exceeded only by August 1941.

►More exuberant *Engineering News-Record* puts the whole country's total of heavy lettings alone at \$1,045 millions—the highest monthly figure ever reported. Engineering construction for the first five months this year thus comes to \$3,936 millions, or about 1940's full volume.

►While private builders started another 14,543 FHA-insured houses for war workers (five months' sum: 70,225), FPFA awarded contracts for 41,635 family dwellings, 900 trailers, 6,470 single-worker dormitory units. This single month's proud hatching exceeds the entire output of public housing during World War I.

From WPB officials comes additional proof of construction records being rapidly smashed to smithereens. At present Building is hitting a rate of about \$12,500 millions a year, by year's end should have accelerated to \$13,500 millions. Although this is a billion shy of earlier WPB forecasts (see FORUM, May, p. 4), it will still be 20 per cent higher than last year's total, itself a record-breaker.





Harris & Ewing

**REFLECTIONS OF WARTIME URGENCY** now vie with the Lincoln Memorial's classical ripples. Two covered foot bridges cross the reflecting pool in Washington to give straight-line communication

between the Navy's emergency office buildings, one of which has been "temporary" ever since World War I. Best feature of the causeways is their raw impudence, assurance of future removal.

## SCOREMAKERS

Satisfaction over recent accomplishments outweighed worries about income taxes and materials shortages in last month's two-day Chicago confab of the Associated General Contractors of America. Everyone seemed very happy, no one looked down-at-heel. Bragged the association's balding, pink-cheeked President Dan W. Kimball of Grand Rapids, Mich.: "A turning point has been reached in the nation's war production program . . . This turning point could not have been reached so quickly had not the construction industry this year, last year, and the year before, been breaking all speed records."

## REVERSE PLAY

The WPB press release stating that new plant construction would be sharply curtailed, perhaps by as much as 60 per cent, has been knocked into a cocked hat. This was revealed in the House Appropriations Committee hearings on the new Navy Dept. bill. Among other things, the Navy contends it needs \$250 millions to build more airplane factories. Challenged for an explanation of this apparent contradiction of WPB policy, Navy spokesmen went bluntly on record to the effect that reports about a reduction in new plant production have been grossly exaggerated.

## ARMY CONTRACTS

The War Dept.'s efforts to reintroduce open bidding on big construction jobs—munitions plants, depots and the like—have fizzled. Henceforth there will be no formal competition for contracts. Instead, the Corps of Engineers will invite qualified contractors to submit informal bids which can then be negotiated to a fixed lump sum in line with other war buying.

In effect, this new construction policy recognizes that competitive bidding is not even desirable under war conditions.

More important than price are the other factors—speed, availability of equipment, conservation of transports. Low bidders who cannot meet these requirements are as outmoded as pants cuffs, and will get as short shrift.

**A-E-M.** Particularly affected is the War Dept.'s so-called "architect-engineer-manager" contract. Concocted a half-year ago as a device to reinstate open bidding, at least on parts of big jobs, it has become the standard form of contract.

Essentially A-E-M is nothing more than the splitting up of a job into smaller pieces which can be designed separately. Individual Government contracts are then awarded for these pieces, but each contract carries a clause requiring the contractor to work under the direction of the A-E-M firm (either a single organization or an engineering-contractor merger). The A-E-M firm gets a smaller fee than if it took the contract on regular cost-plus, which has made the scheme unpopular with the big general contractors. However, since the A-E-M fee is not reduced every time a part of the job is farmed out, the door is opened wide for small specialist firms with needed resources.

The A-E-M contract itself has always been let by negotiation, but subcontracts have usually been awarded after open bidding. Under the new policy these also will be negotiated.

## BILLETING

Blandford's efforts to reduce the need for new construction by a more intensive use of existing accommodations get sturdy support from professional housers:

►A report just issued by Mrs. Rosenman's National Committee on the Housing Emergency calls for a Homes Registration Service in every war production center to make existing vacancies available. The Committee hints darkly: "The day may

not be far distant when it will actually be necessary to billet workers in private homes."

►In New York a "war guest" campaign has been started by State Housing Commissioner Edward Weinfeld. Objective: not merely to register existing vacancies but to open private homes which never before took in lodgers.

►Speaking before the National Public Housing Conference in New York's Town Hall Club fortnight ago, Capt. Richard L. Reiss, visiting British housing expert, went a long, brash step beyond. He suggested commandeering of vacant houses and compulsory billeting of war workers if appeals for voluntary room-sharing fail.

In England, stated Reiss, overcrowding is determined by comparing the total population with the total supply of rooms, kitchens subtracted. If there is less than one person to a room, the area is not considered overcrowded. According to his calculations, Hartford has 15 per cent more rooms than persons, whereas Mobile has 33 per cent more persons than rooms—a *prima facie* case for advocating billeting in undercrowded Hartford, dispatching more building materials to overcrowded Mobile.

## UNITED BUILDERS

Nearly two years ago, at the National Assn. of Real Estate Boards' convention in Philadelphia, a group of builders specializing in low-cost houses swarmed into open revolt. Not directly opposed to NAREB affiliation, they wanted nevertheless their own independence as a separate trade group. Underlying reason: opposition to forking out realty brokerage commissions when operating on a low profit margin. Belatedly, NAREB bigwigs created Home Builders Institute as a peace gesture, but the redhot insurgents, bent on being divorced from real estate brokers, stood pat on their demands for au-



tonomy and forthwith set up as Associated Home Builders (see FORUM, March 1941, p. 2).

Since then the two organizations—HBI and AHB—have competed for the privilege of promoting the home-building industry's welfare. Results: unfortunate for the industry itself. Without aiming to do so, they have frequently crossed each other up in supplying facts to congressional committees and Government bureaus.

Finally, week ago, officers and directors of both organizations put their heads together in Washington, unhuddled with the welcome news that henceforth the home-building industry will present a united front. Plans are currently under way to merge HBI and AHB into a new organization—the National Assn. of Home Builders. Under the proposed setup, builders would come in without having to belong to a real estate board at the same time. This does not mean that NAHB would be divorced entirely from NAREB, however. Chapters already organized as parts of local real estate boards would be kept intact.

#### PACT

At the same time as Molotov and Churchill and Roosevelt went into a huddle on international affairs, representatives of the American Bar Assn. and the National Assn. of Real Estate Boards came out of one of their own with an agreement almost as sweeping. Both organizations have resolved that henceforth realtors should not practice law, lawyers should not dabble in real estate. A National Conference is to be organized to stake out and police the proper field of activity for each group.

#### SCRAP

Metals and rubber are the big items to be salvaged for war use. Most big buildings make a happy hunting ground: ornamental metal balconies, bronze canopies, railings, floor mats, so on, can be yanked out with small esthetic loss, often with much gain.

Inspired by the possibilities, Secretary Ickes last month began sweeping his Interior Department clean of movable rubber articles, but the Public Buildings Administration beat him to twelve large rubber mats designed by Indian craftsmen. The mats were taken into protective custody. Complained a PBA spokesman: "We have to maintain these buildings."

#### ECONOMANIA

The Senate's budget-butchers—notably Byrd, Tydings and McKellar—have been wielding their legislative meat cleavers on housing again. Latest victim is the Independent Offices appropriation bill which provides administrative funds for the various housing agencies.

Chopped off:

►All cash needed for publicity activities by FHA and USHA (FPHA had not been created at the time the bill was proposed, but will inherit the funds as well as the functions of its predecessor). A confer-



Photos, Acme



**SUITCASE SHELTERS**—easily put up, easily packed away—are Farm Security Administration's solution for the problem of housing migrant farm workers. Photos show a temporary camp being assembled at Swedesboro, a New Jersey truck farming center. With a 6-man crew, each 12x14 ft. shelter can be erected in less than four minutes, dismantled in about the same time. Each is usually mounted on three 4x4 in. sleepers. These provide a level base for the two floor sections, into which two side wall and two end wall sections then interlock. Two roof sections, resting on a 4x4 in. ridge, complete the assembly. No bolts are used—only hardwood dowels. Furnishings: a cook stove, four beds. Cost of units: \$129.50 each, in 1,000-unit lots, if built of 1/4-in. waterproof plywood; \$150 to \$175 each, if Masonite or drop siding and composition roofing are substituted. Tests are now being made on sample units lined with insulating panels and mounted on piers for winter occupancy. Their cost, approximately \$300 each. Designer: FSA's Engineer Michael L. Marcia.

ence committee finally agreed to restore half of FHA's requested \$180,000, stood pat on refusing USHA a solitary dime for housing propaganda.

►More serious, three \$50,000 items requested by FHA, USHA and HOLC individually to continue a joint program of housing research at the Bureau of Standards. Thus ends, at least temporarily, the work which has produced such good things as the model building and plumbing codes (see FORUM, June, p. 351).

#### CERAMICS INVASION

In an era of shortages, more glamorous than ever become the ceramics—glass, pottery, porcelain, tile, brick, anything made of earthy materials and fired to at least 1,000 degrees. To priorities-pinched manufacturers, they give bright hope of amply available substitutes. To industrial de-

signers deprived of customary markets, another field to invade.

Appropriately, big-name New York Chapter members of the American Designers' Institute met last month, dined early, listened late into the night as guest speakers explained the ceramics industry's problems. Chief problem: to capitalize the potentialities of new machinery. In recent years costly craft skills have forced the industry's mechanization. The substitution of machines for hand labor has in turn resulted in cheaper products, larger sales and, paradoxically, more persons employed than before. Recognized task now is to design new forms more suitable for mass production. Minor problem: a buying public that still insists on trellised rose patterns for tableware.

WPB's Ceramic Consultant Rexford  
(Continued on page 94)



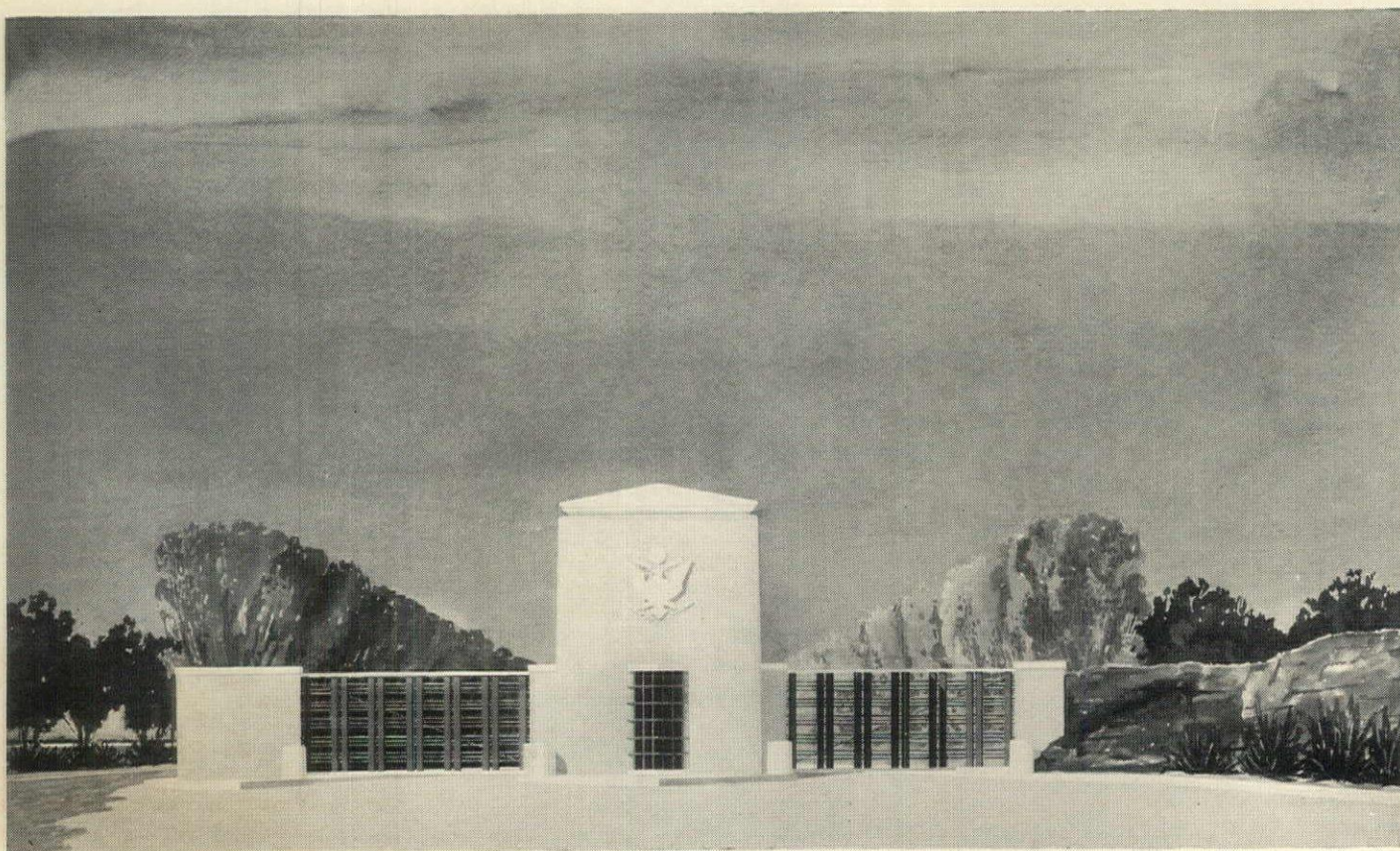
# PROJECTED CONSTRUCTION

It is known that the United States has troops protecting the Atlantic coastline at various localities extending from cold northern waters down to the tropic seas. Projected types of construction as shown here are of interest to architects, engineers and building technicians in that they reveal a departure from traditional Army building practice, and a flexibility on the part of planners in adapting themselves to unfamiliar climate and location.

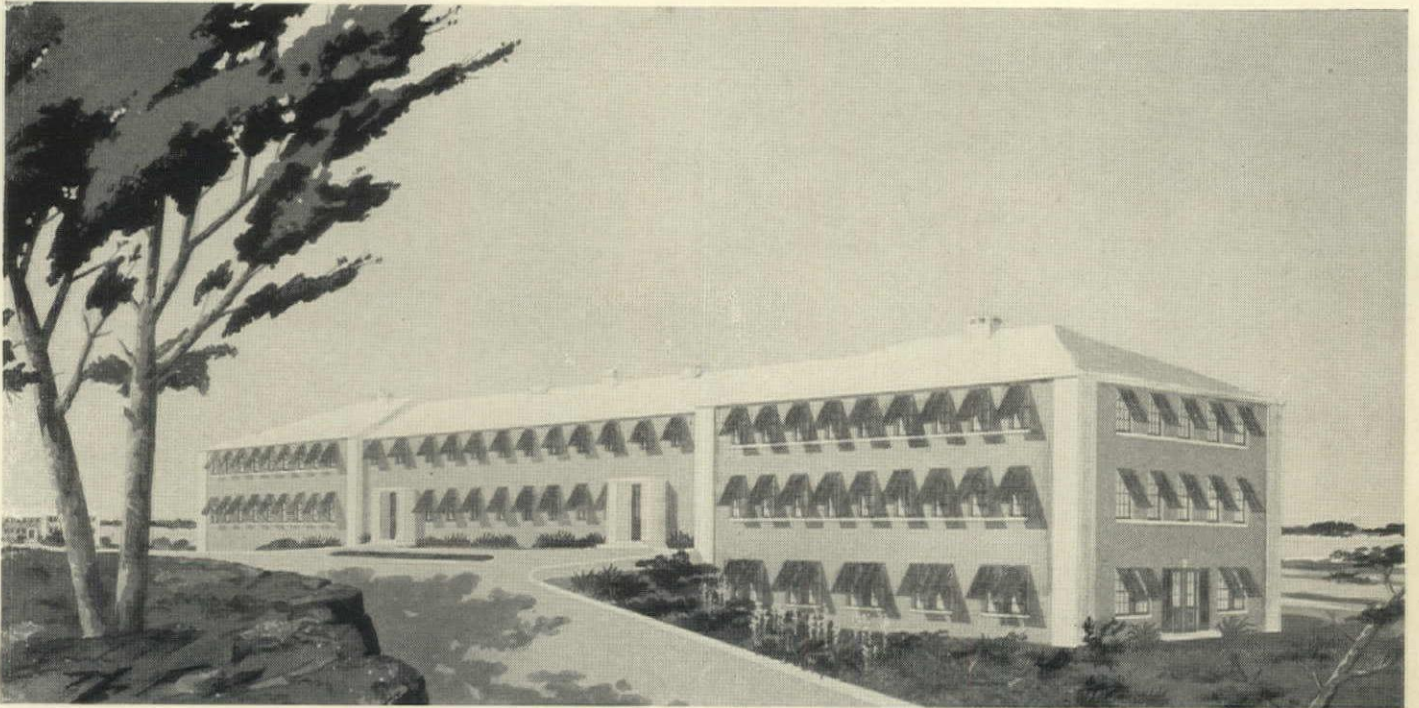
These new designs have been worked out in connection with proposed construction for troop housing in tropical and semitropical areas. They are presented here because they show how it is possible to meet some of the housing problems confronting the Army in such climates. The type of building that they involve will increase living comfort in the tropics and will also withstand high wind pressure and resistance to earthquakes.

SHAW, NAEISS AND MURPHY, ARCHITECTS

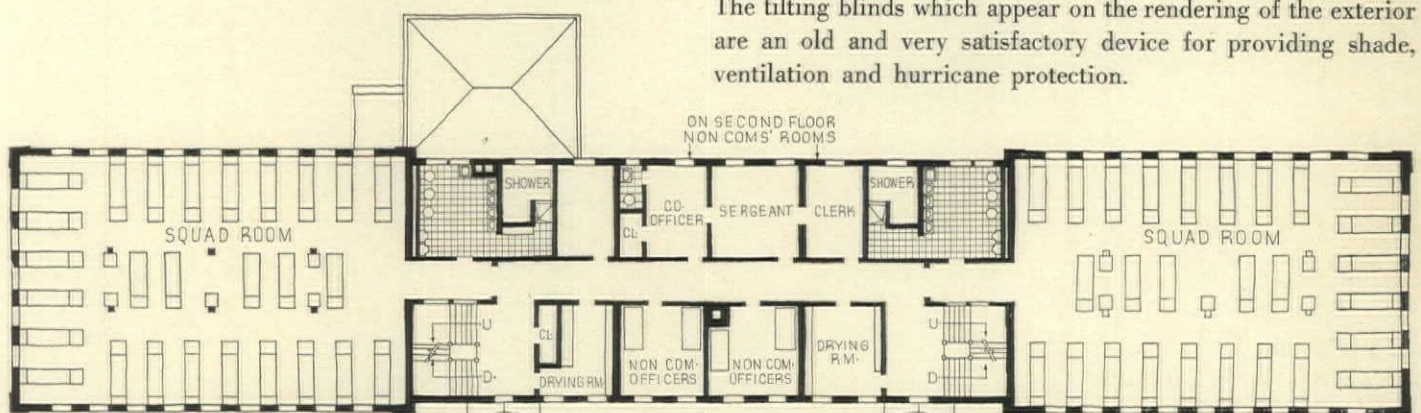
MAIN POST ENTRANCE



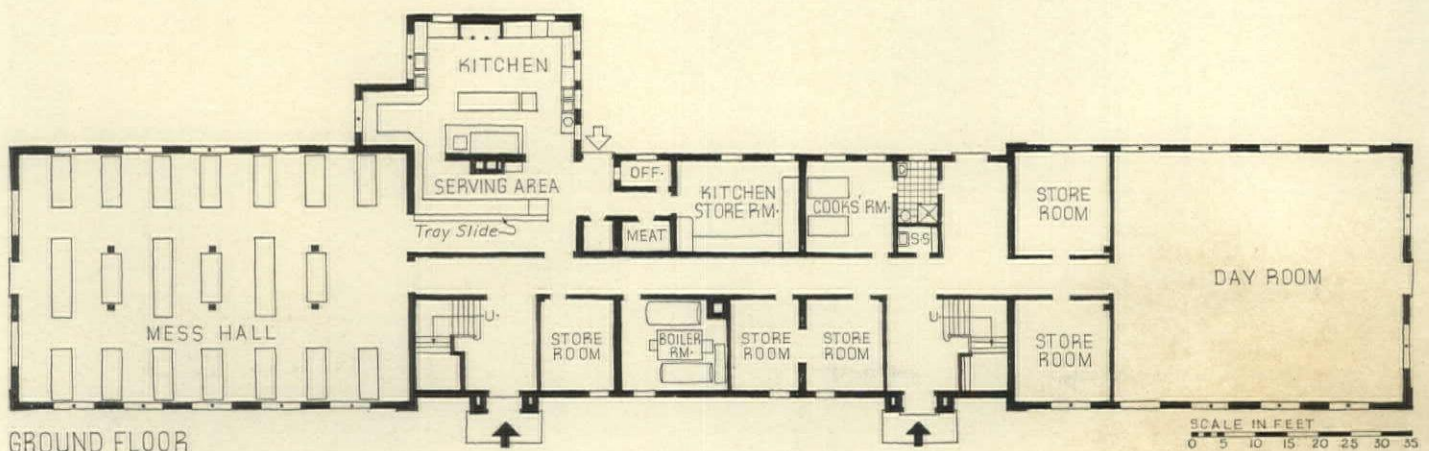




The typical barracks plan is shown directly below. Each squad room contains living accommodations, with toilets, non-commissioned officers' rooms and drying rooms in between. On the first floor this link contains a few offices as well. Common services are located at the ground floor level, and include a mess hall, a kitchen with a cafeteria-type serving area and a day room, which is the general recreational space. The tilting blinds which appear on the rendering of the exterior are an old and very satisfactory device for providing shade, ventilation and hurricane protection.



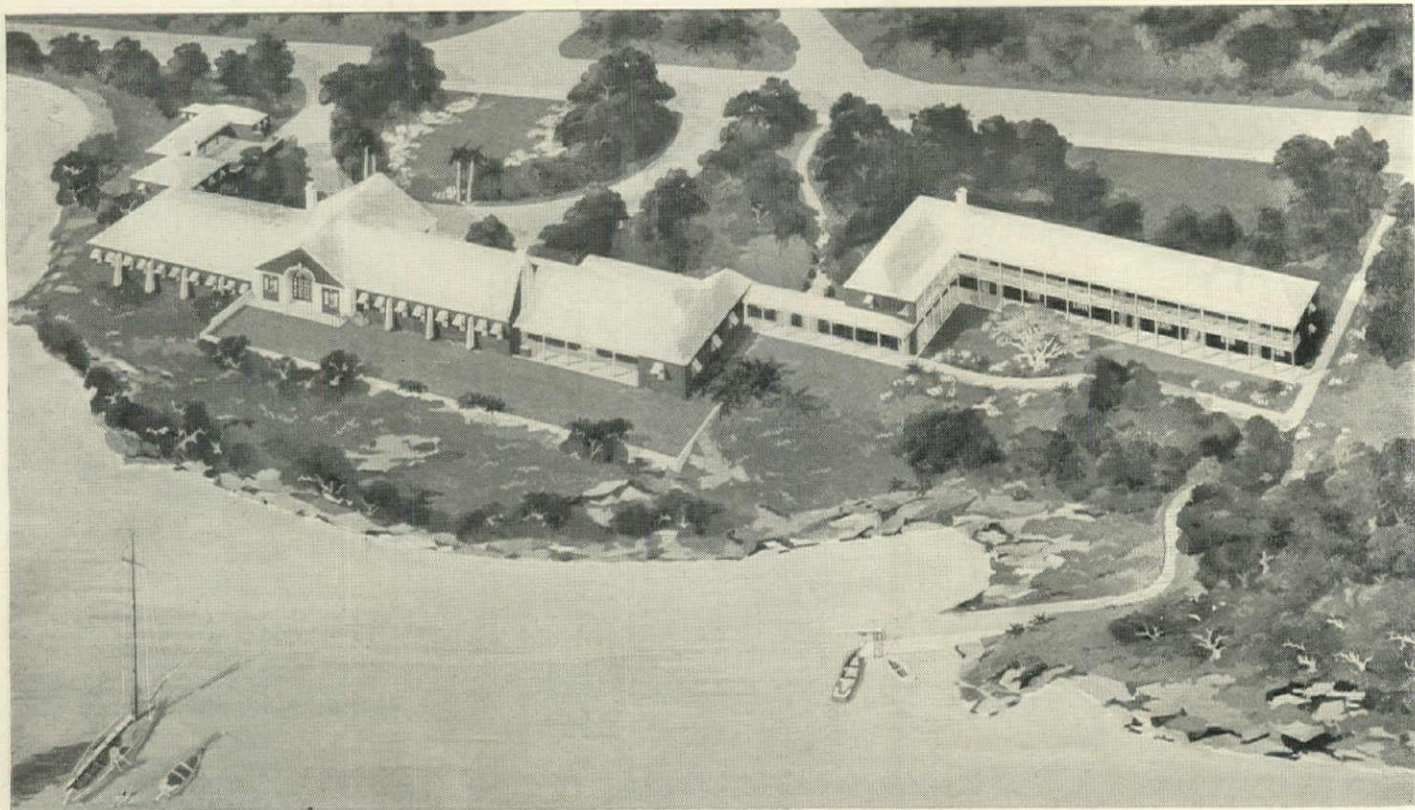
FIRST FLOOR (Second Floor Similar)



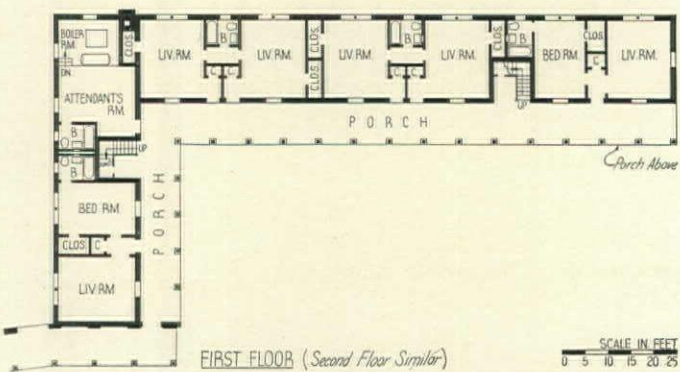
GROUND FLOOR



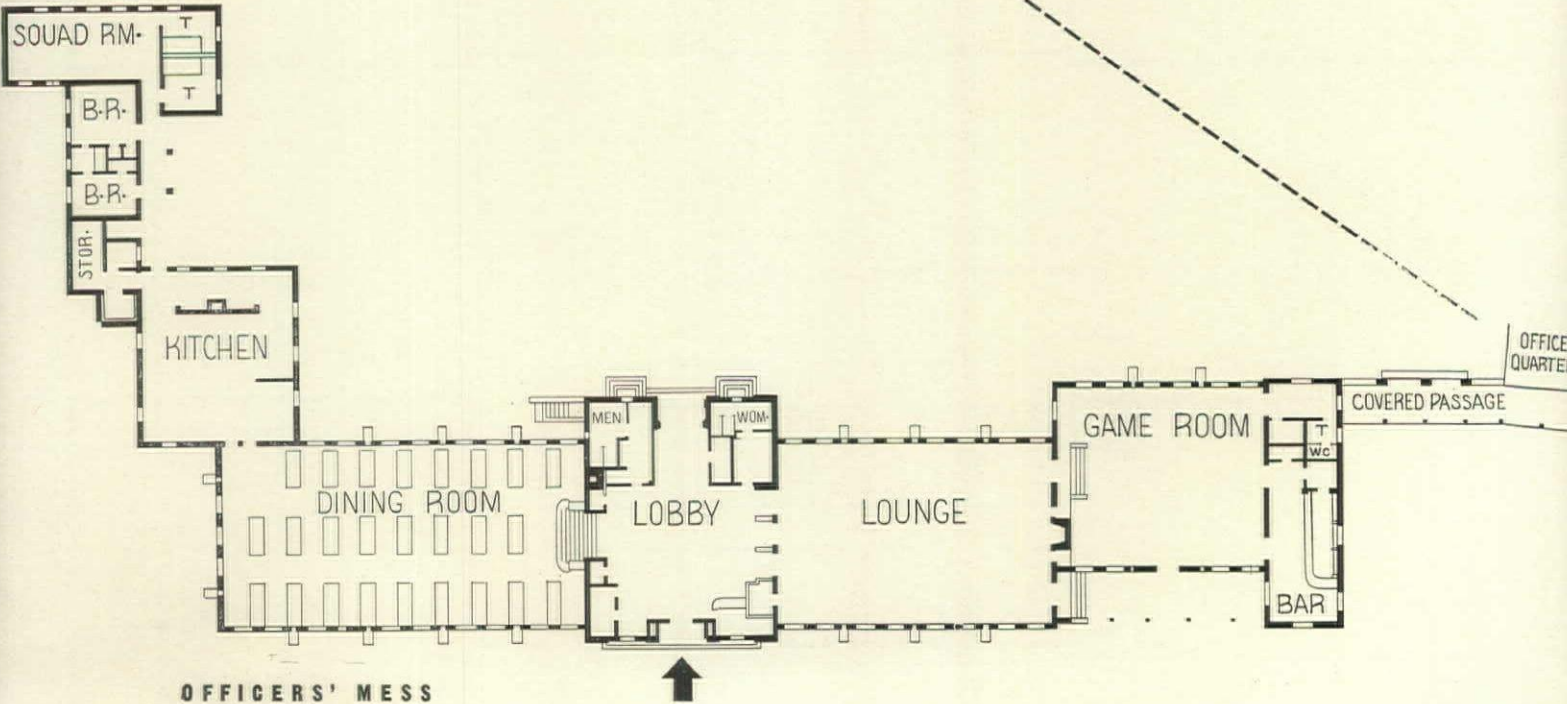
COMMISSIONED OFFICERS' QUARTERS



This club-like group for commissioned officers is an excellent example of the freedom with which the elements of a building may be arranged when the climate permits. The dormitory unit, for instance, has the traditional two-story porch, which is a perfectly satisfactory means of circulation in sub-tropical regions. The one-story structure contains the officers' mess hall, lounge, game room and services.



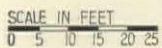
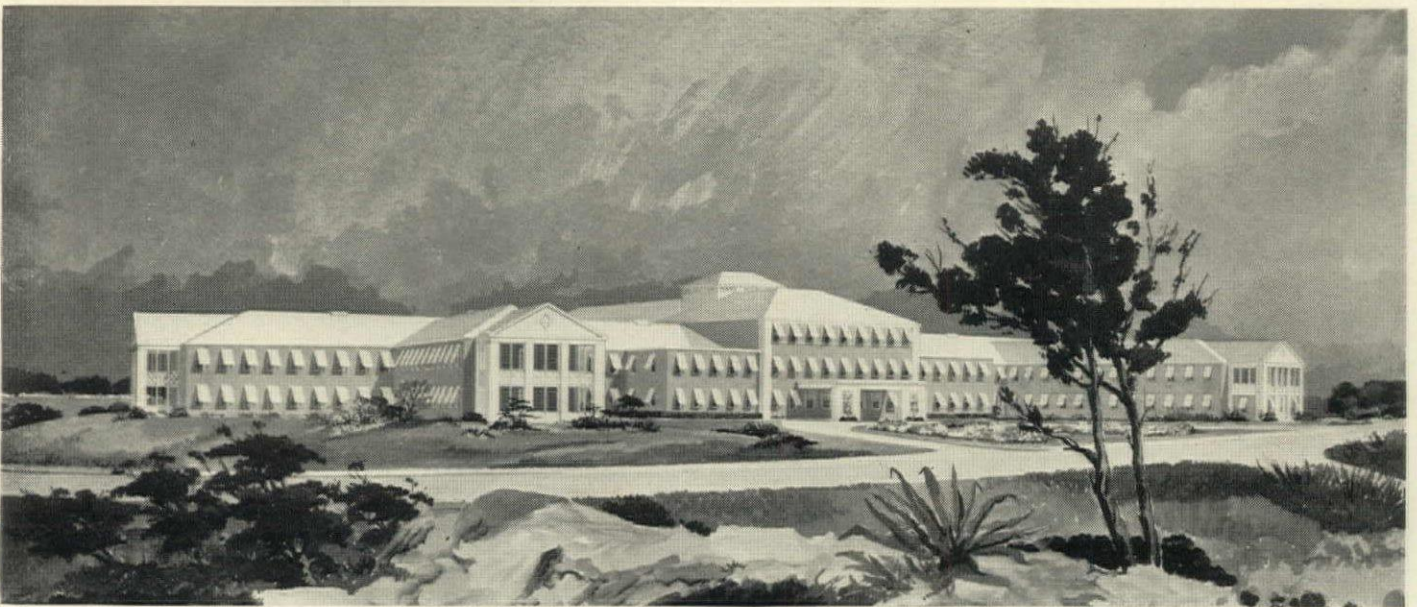
OFFICERS' QUARTERS



OFFICERS' MESS

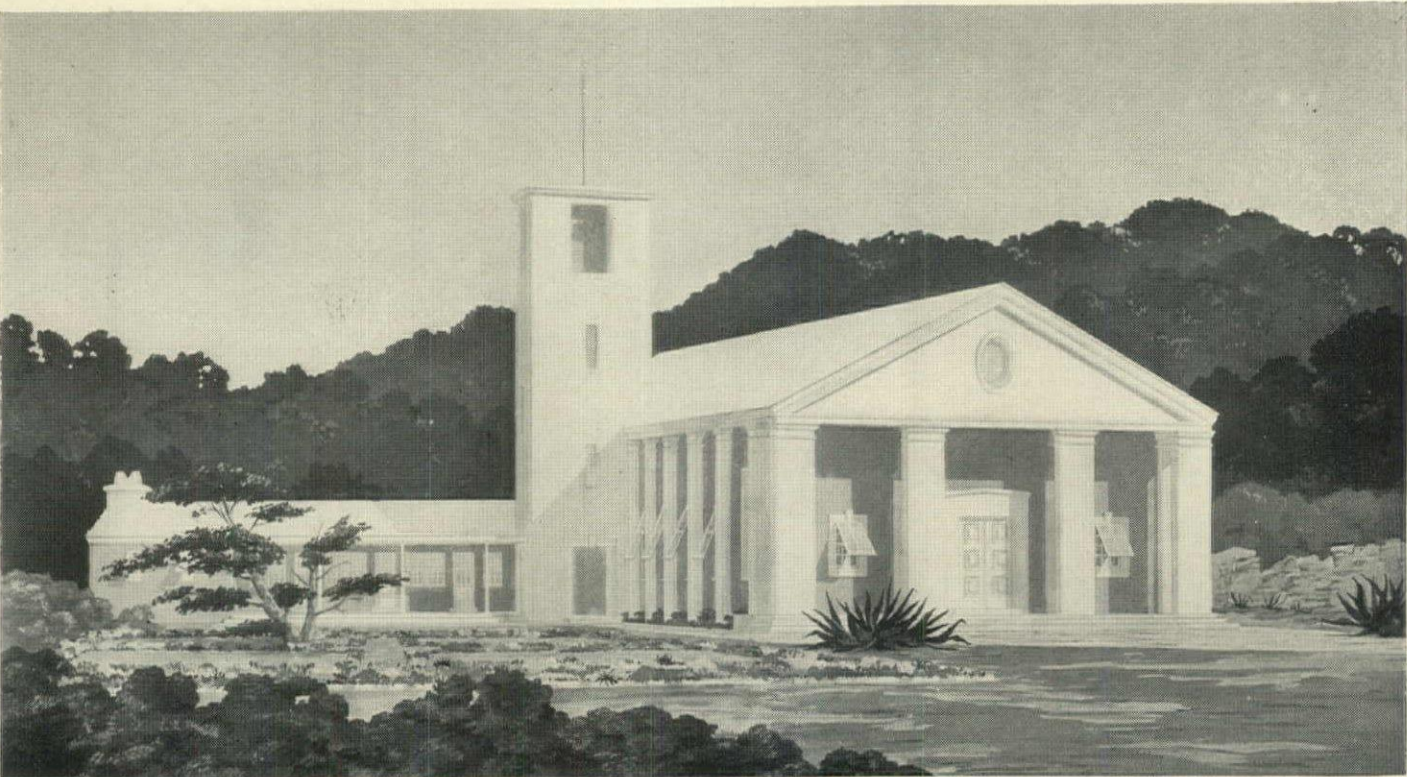


The permanent hospital is to be a complete medical center, equipped not only for the normal requirements of treatment and examination, but for emergency use as well. The ramp system, which facilitates the moving of patients anywhere within the building, connects directly with the splinter- and gasproof shelters in the basement. It will be noted that the plan is composed of a series of narrow wings throughout the building, providing all wards and work spaces with excellent light and ventilation.

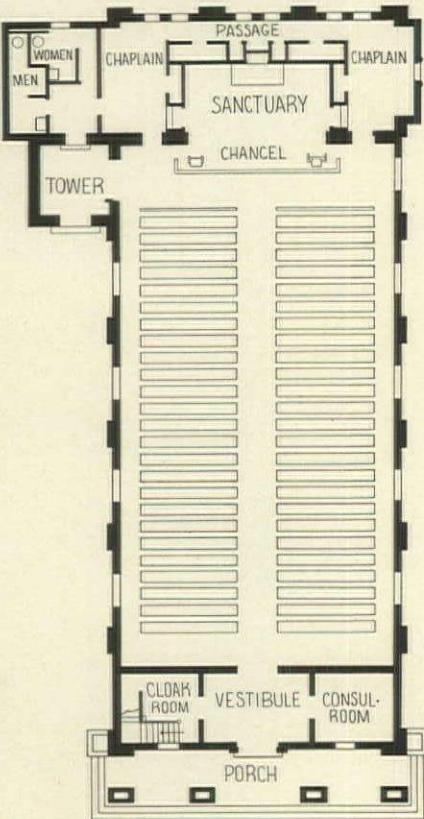




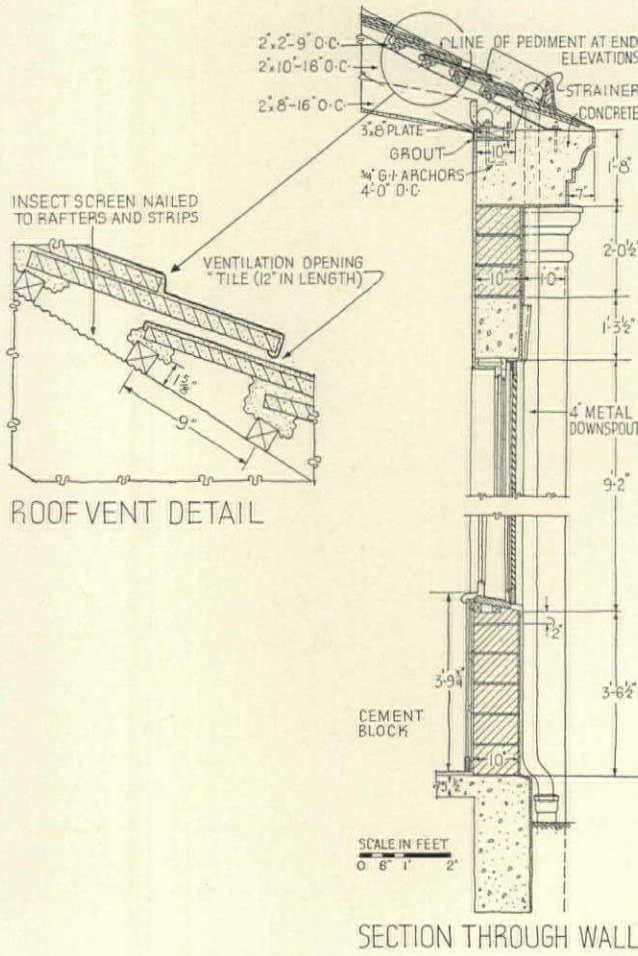
CHAPEL



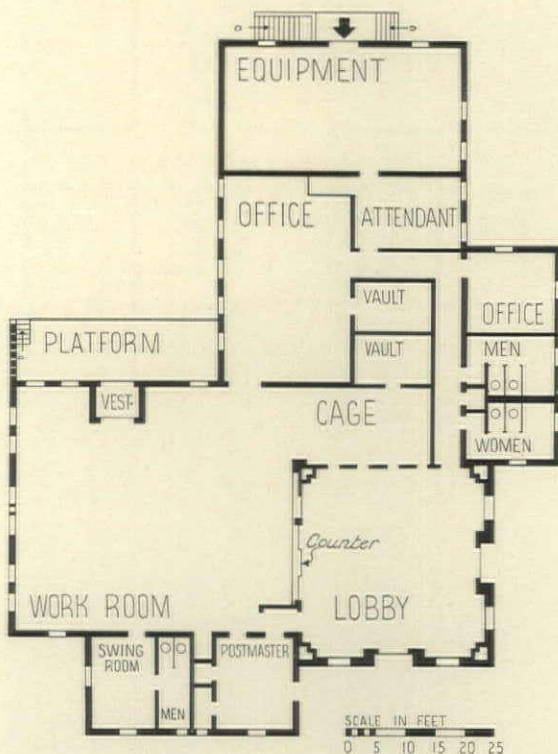
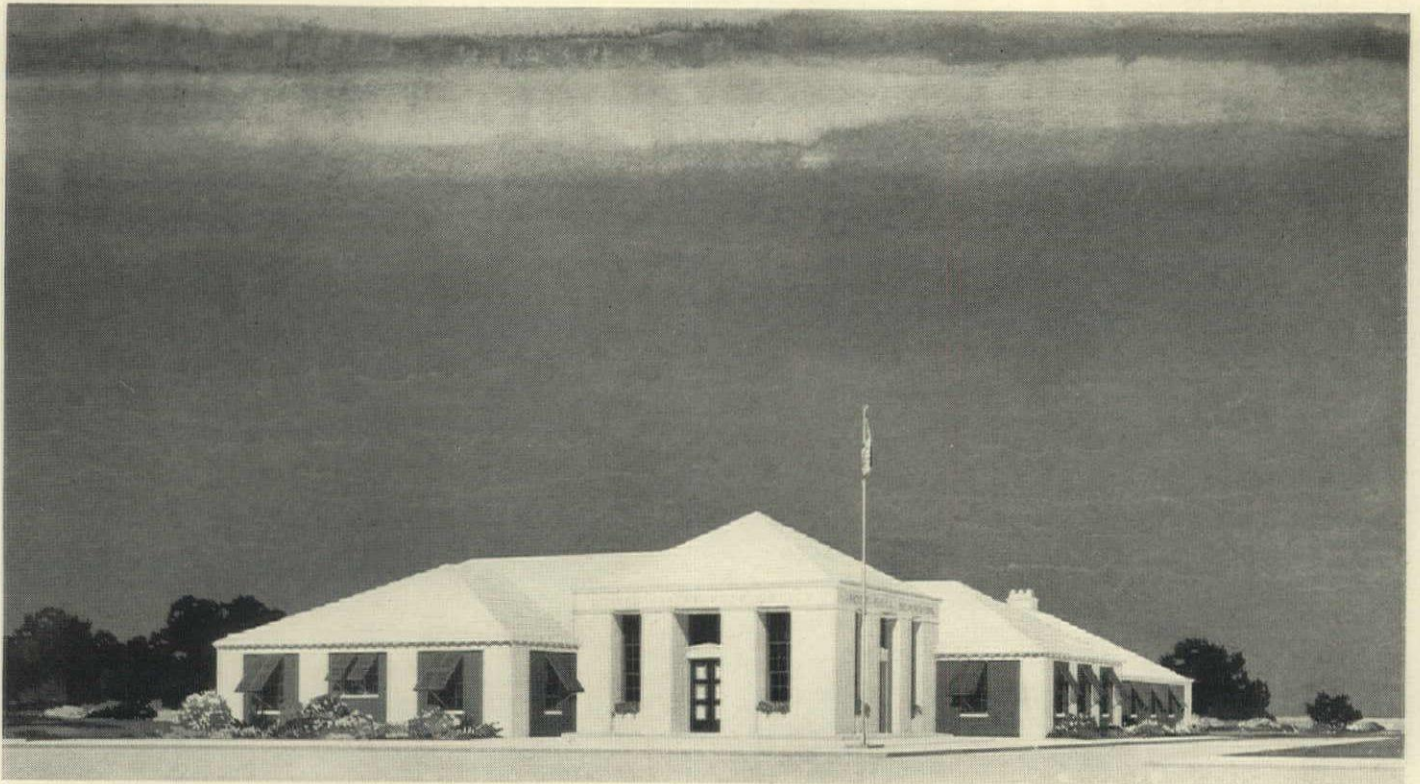
One of the handsomest buildings in this group is the chapel, which makes extremely effective use of the contrast between white stone or concrete and colored stucco. As in all Army chapels, the building is arranged so that services for any denomination may be held. The detail below is fairly typical for a number of the buildings shown here. The raised tile, providing roof ventilation, will conform to local architectural practice in the area.



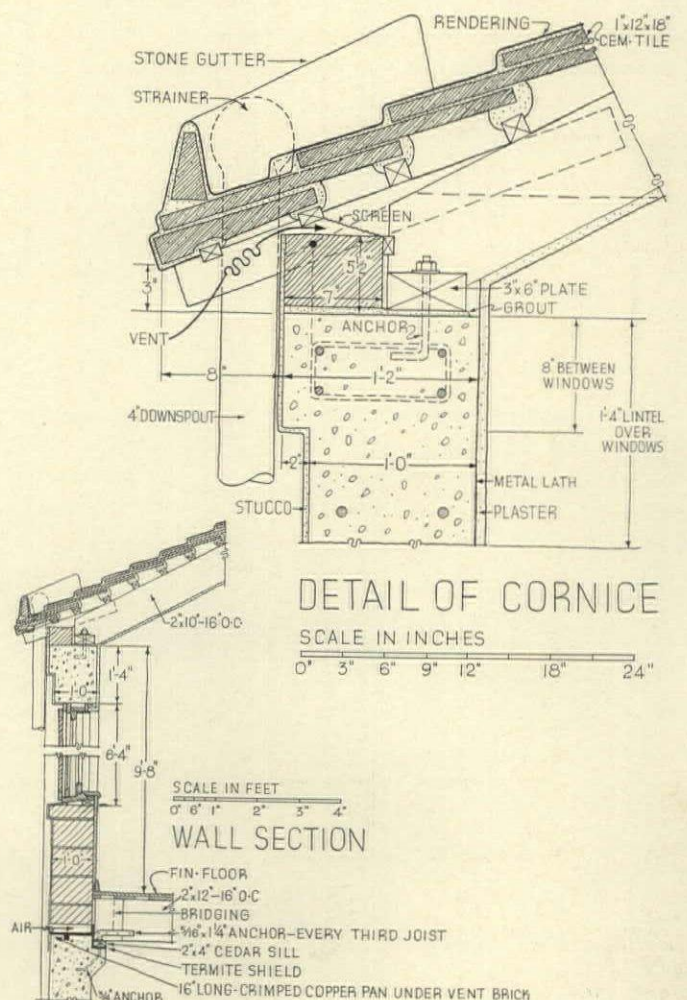
SCALE IN FEET  
0 5 10 15 20 25





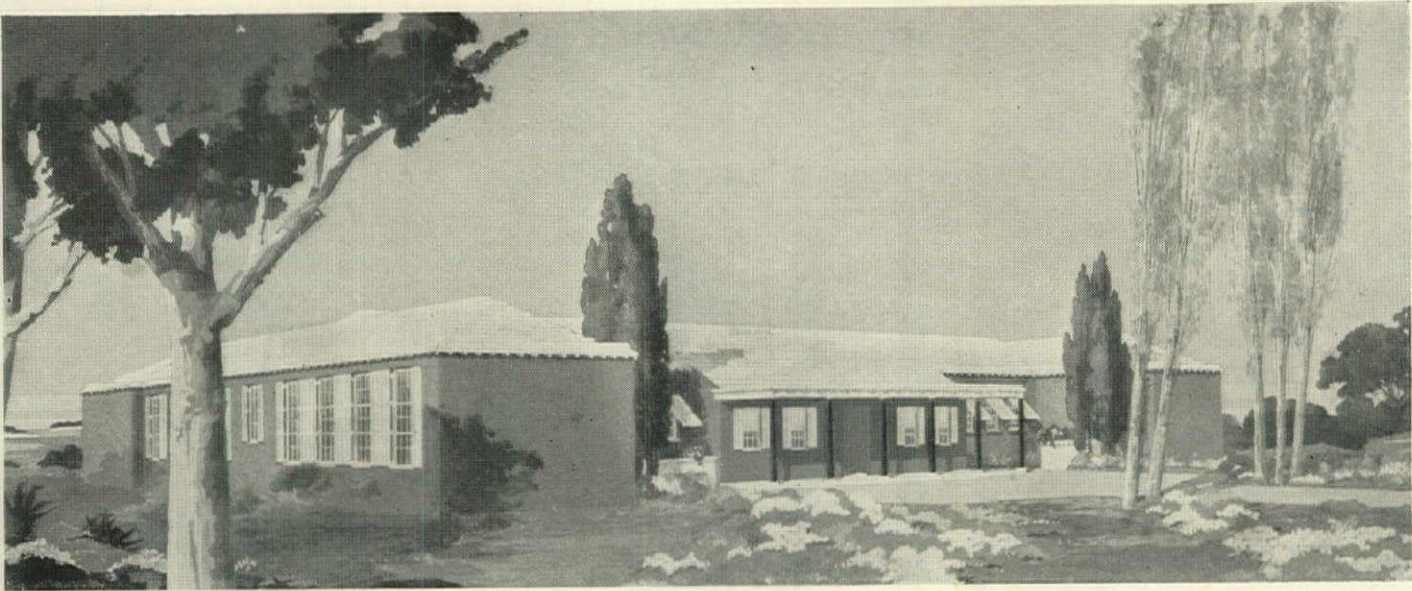


Aside from the fact of its use by the Army, the post office does not differ in any important respect from those found elsewhere. The building, like the chapel on the facing page, is small in scale and pleasantly intimate in character. The detail drawing is of interest for the simple manner in which floor and roof ventilation has been provided, and for the termite shield.

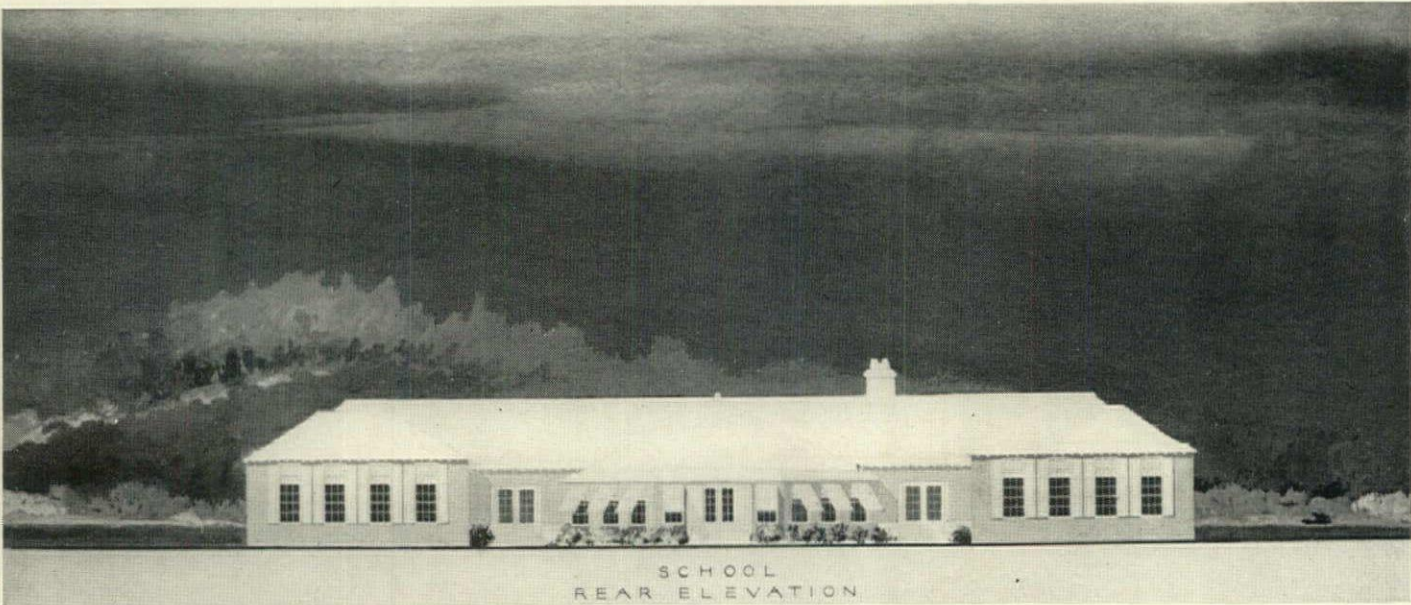
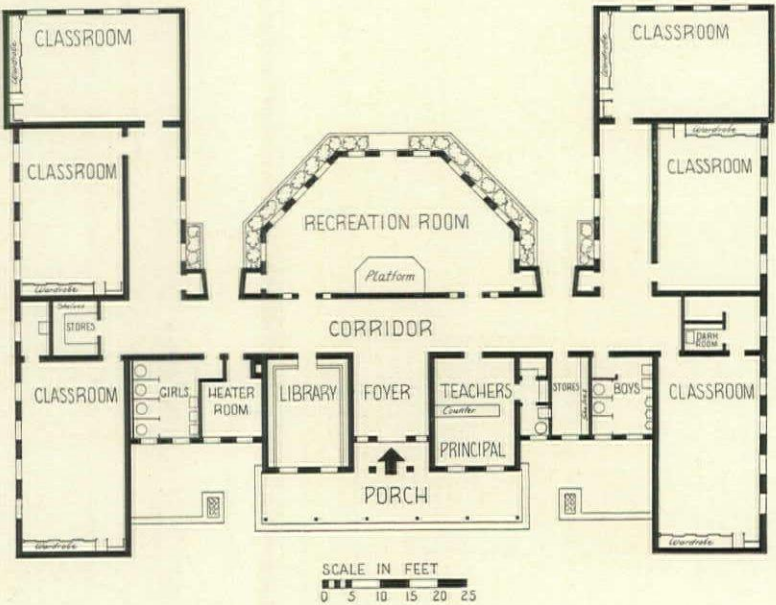




SCHOOL



This small school building was designed to take care of the children of Army families. The plan, very conventional in its rigid symmetry, provides space for six classrooms, a large recreation room at the rear, a library and an office. The drawings show an adaptation of the local vernacular—colored stucco walls, white roof and shutters, and wood columns on the porch. There is no auditorium or gymnasium; the climate makes the latter unnecessary, while the recreation room is large enough for the use of the entire school at one time.

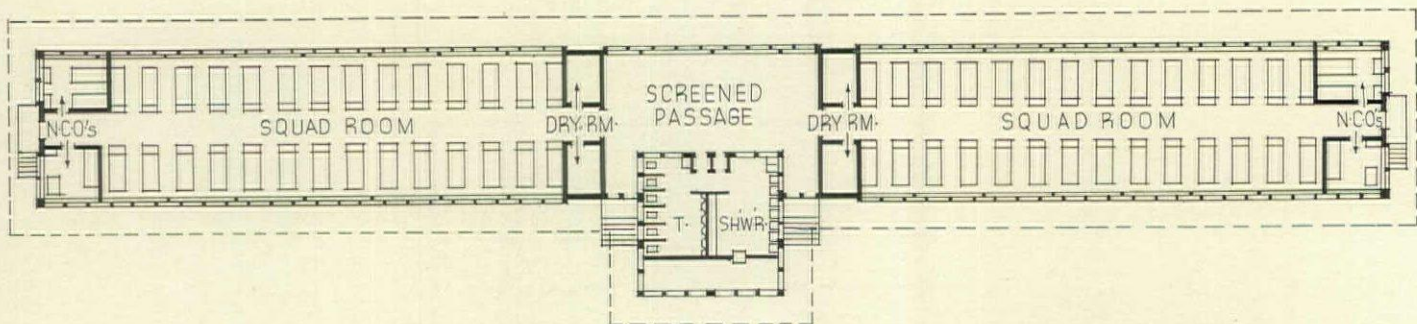
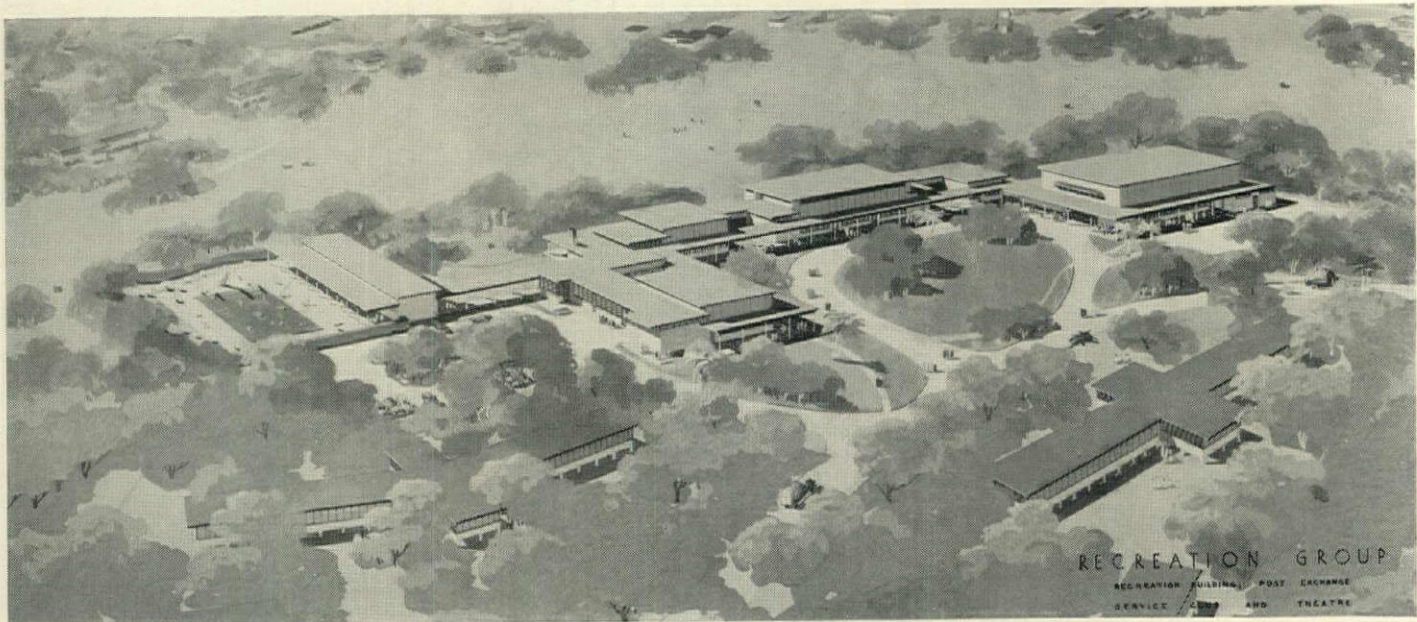






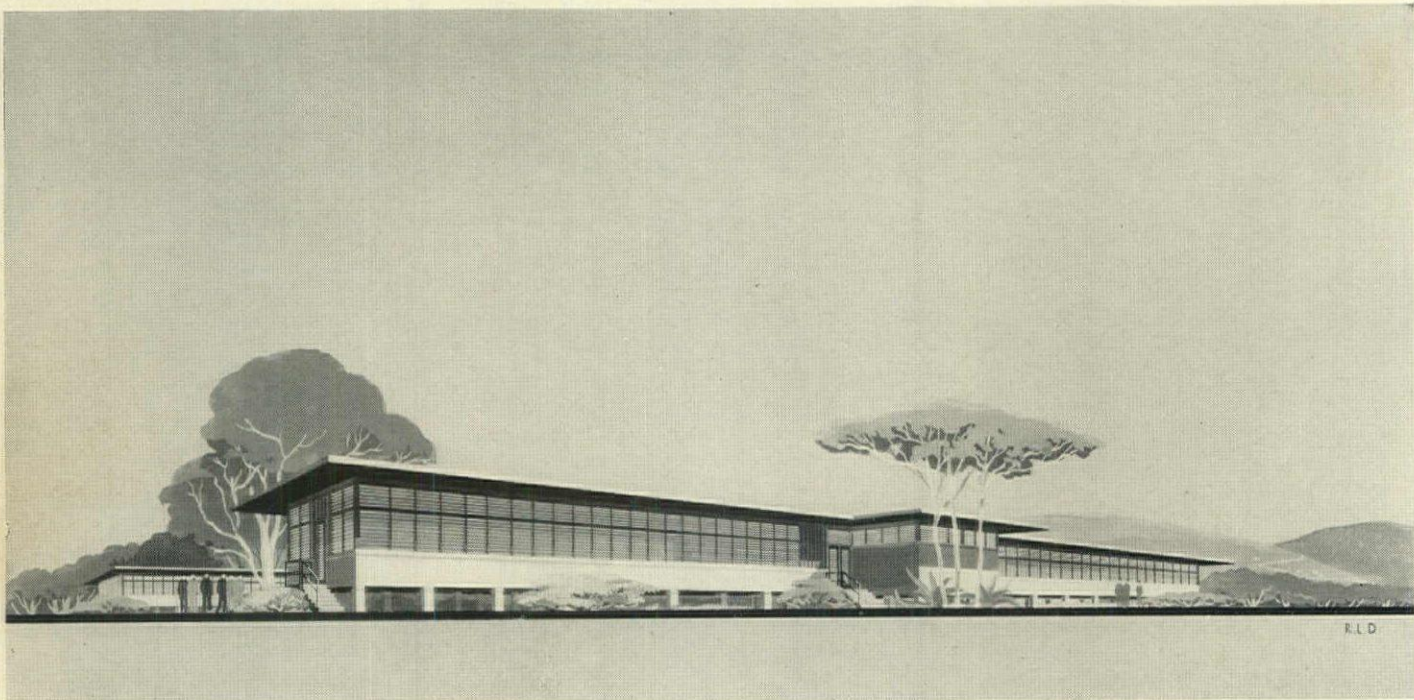


BUILDINGS FOR THE CARIBBEAN AREA



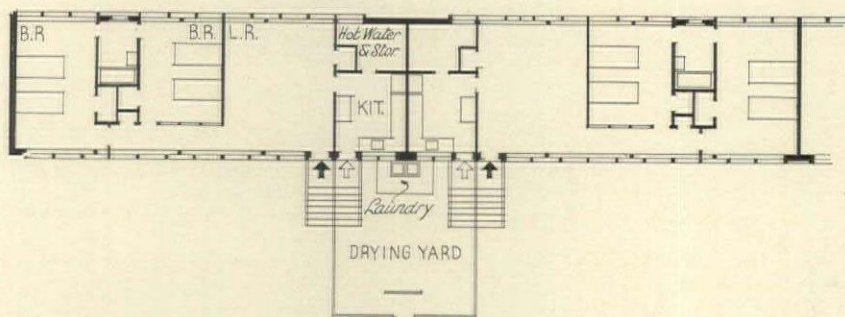
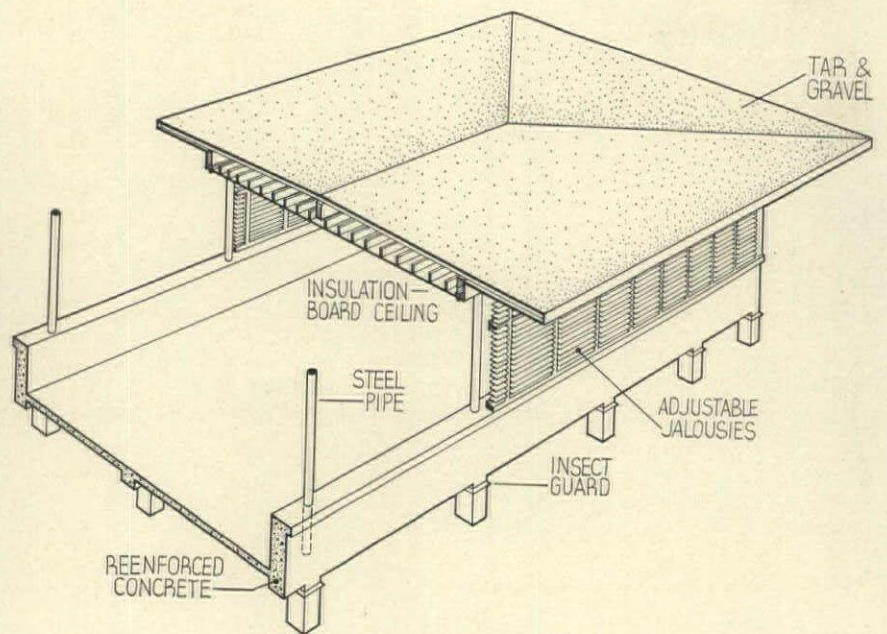
BARRACKS

Peter A. Juley & Son



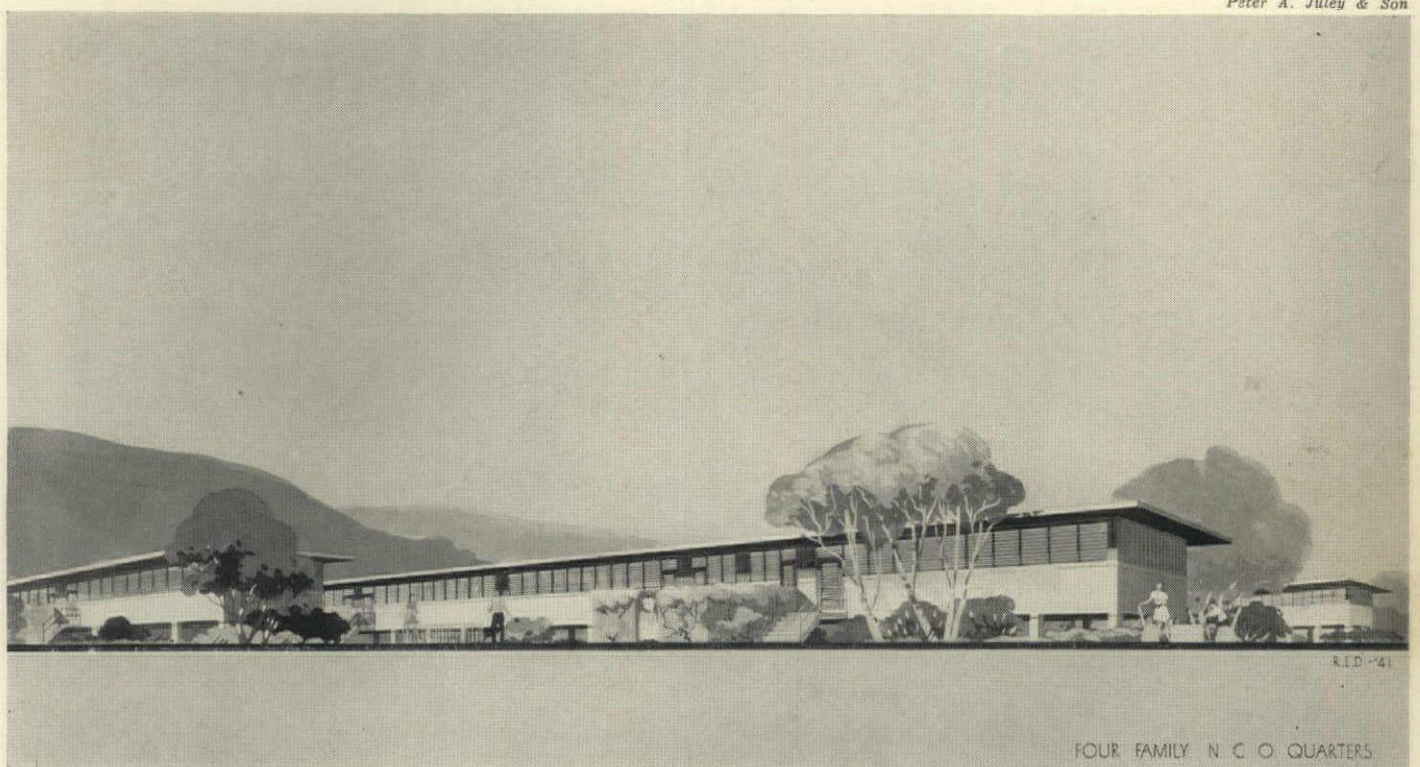


The key to the design of most of the buildings in this group is to be found in the drawing at the right. The architects worked out a reinforced concrete trough on posts, with the steel pipe posts supporting the roof firmly imbedded in the concrete. Windows are replaced by a continuous horizontal band of permanent, adjustable louvers. The design is not only a brilliant and direct solution to the problems of ventilation, earthquake resistance, tropical storms and termites, but it also produced a series of building types beautifully adapted in character as well as construction to the climate and landscape.



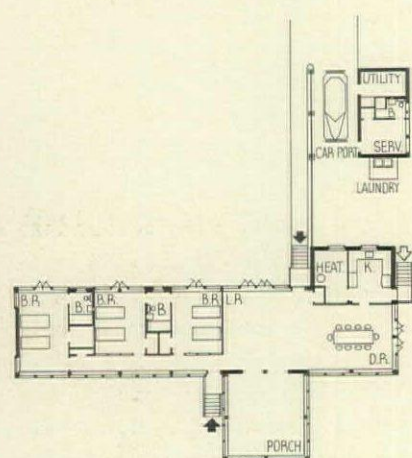
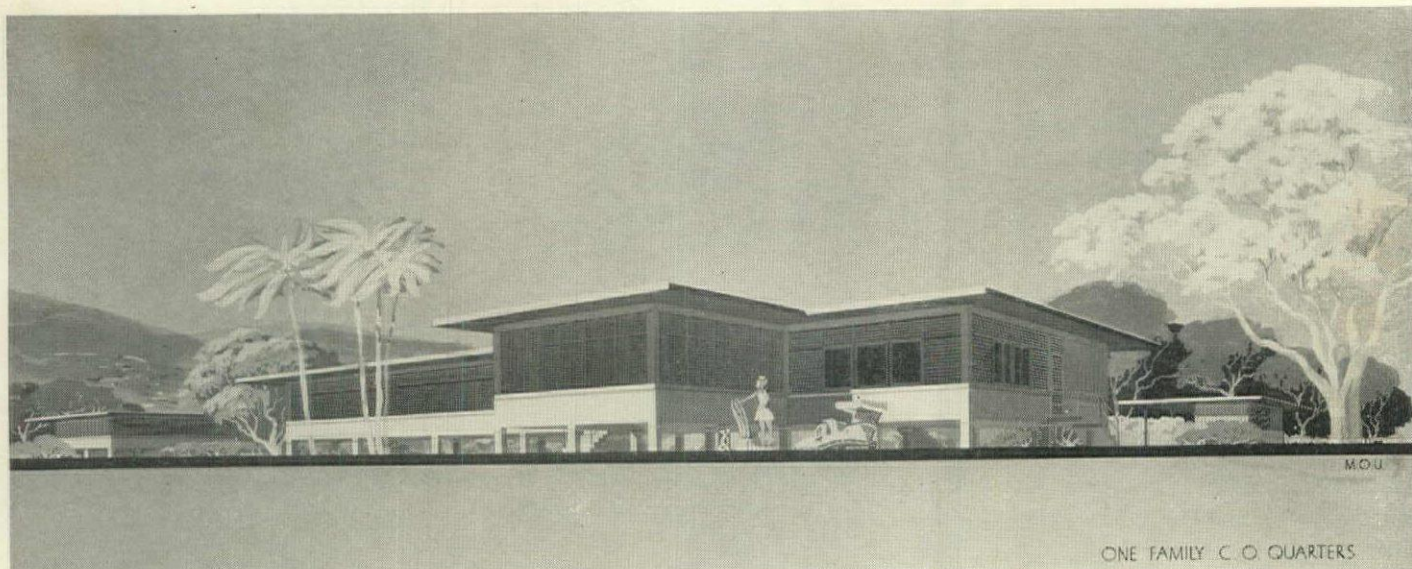
The flexibility of the basic design adopted is well shown by the renderings at the bottom of these two pages, one showing a barracks and the other, some family units. One of the most interesting and successful of all the buildings is the recreation center, a handsome and orderly grouping of light structures constructed in the same manner as the barracks. It is most unfortunate that none of these designs shown have been executed: a change of the program by the Army made it necessary to replace these permanent buildings with a standard series of temporary units.

Peter A. Juley & Son

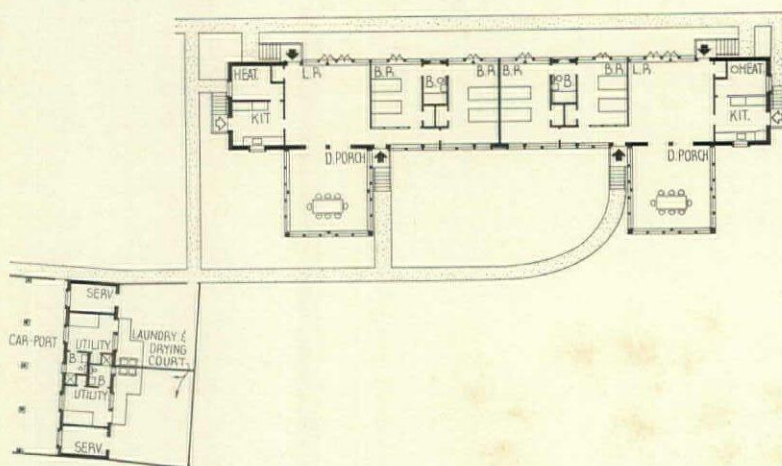


FOUR FAMILY N. C. O. QUARTERS

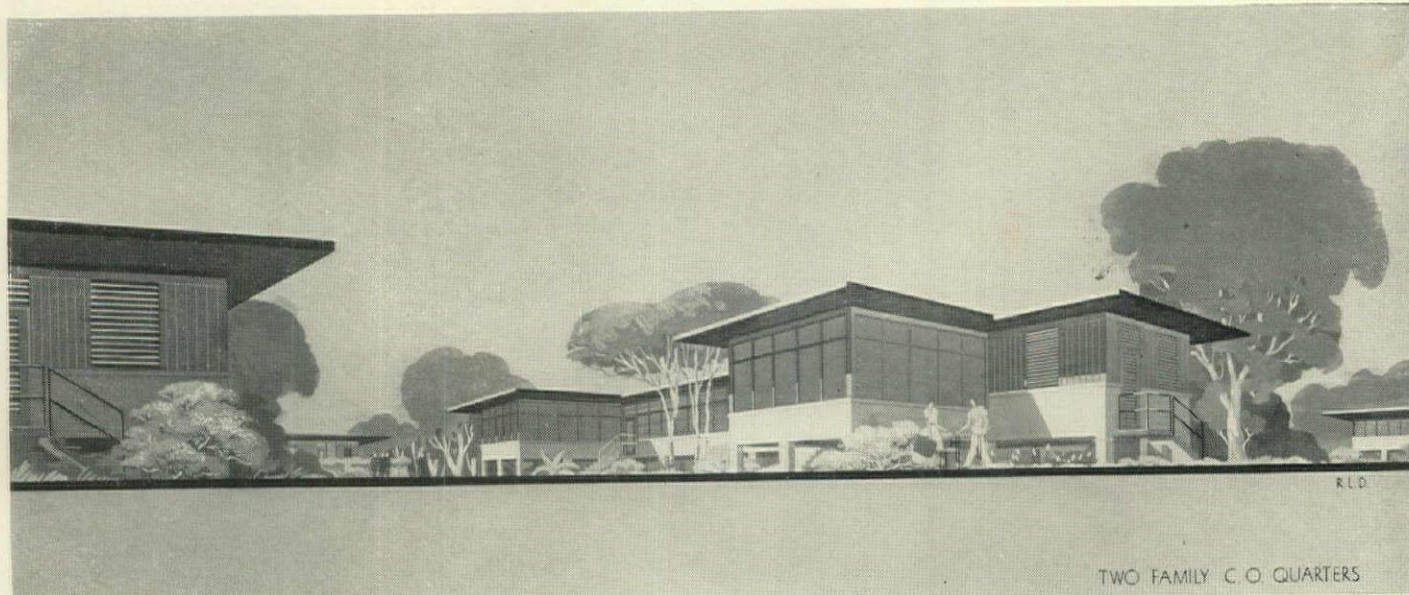




The houses for commissioned officers and their families are divided into two- and three-bedroom units, and are arranged as single and duplex houses. It would be difficult to find better planned dwellings than those shown here. Of unusual interest is the clear expression of the separation between structure (as shown by the plans of the pipe columns) and walls, which consist mainly of louvers. To get through ventilation for all bedrooms, the corridor walls are also made of louvers. The basic structural system, it will be noted, is identical with that employed for the larger buildings.



Peter A. Juley & Son







Acropolis in wartime Manhattan: not columned temples but inexpensive frame coverings to shield hospital skylights and operating rooms from falling shrapnel.

# A. R. P. IN HOSPITALS

Extra services needed during air raids complicate already complex problem of protection. New York City hospitals try out standardized details.

As a problem in protection against enemy raiders, the hospital tops all other buildings by its complexity. Bedridden occupants cannot easily be moved to areas of safety—most must therefore stay where they are if bombs start falling. Large, sunny windows, normally a health-giving asset, become a safety hazard—patients must be protected against shattered glass. Hospital activities are continuous—interior illumination must therefore be available at all times, which means added special precautions in blackouts. Roof terraces and pavilions are usually numerous—each separate area must have its own readily accessible station of supplies for smothering incendiaries.

All these considerations are truly vital, but they are transcended by another which makes the hospital unique among buildings in wartime. Unlike industrial plants and offices which require protection only to go on as usual, the hospital must be prepared to do the extraordinary. The heaviest strain on its services is likely to come in the midst of an air raid. Entrances must be kept free of any possible debris so that outside civilian casualties can be quickly brought in for emergency treatment. Operating rooms and wards must be readied to meet peak loads and the most adverse working conditions that can be anticipated. All this besides protecting the building itself against destruction!

On the following pages THE FORUM presents what various public and private hospitals in New York City have done to solve their wartime problem. In all cases, it should be noted, maintenance of hospital services is the No. 1 requirement. Although entrances and operating rooms are now well sheltered against fragmentation, no attempts have been made to protect buildings against direct hits. England's experience has proved this useless: only if a heavy demolition bomb fell no closer than 50 ft. would any such protection, necessarily expensive, be adequate.

Pattern for the city's 30 public hospitals comes from Mayor La Guardia's Civilian Defense Procurement Committee, headed by Comptroller McGoldrick and including Commis-



Non-shatterable materials replace glass in all hospital cubicles.

sioner of Public Works Irving Huie and Commissioner of Purchase A. Pleydell, which determines the defense needs of the City Departments. The installation division of that Committee is headed by Acting Deputy Commissioner of Public Works A. H. Morgan. Standard details have been developed by Architect Samuel Oxhandler and Construction Expert William R. Barry and Dr. John Grimley, Deputy Commissioner of Hospitals for use on each job. Some of these are reproduced herewith. As comparison with photographs of actual installations will show, the details are easily revampable to meet individual site peculiarities. In many instances changes have had to be made in the details to meet the limitations of 1) available materials, 2) unskilled WPA labor. (So far 202 city-owned properties, including hospitals, have received the CDPC's A.R.P. treatment.)



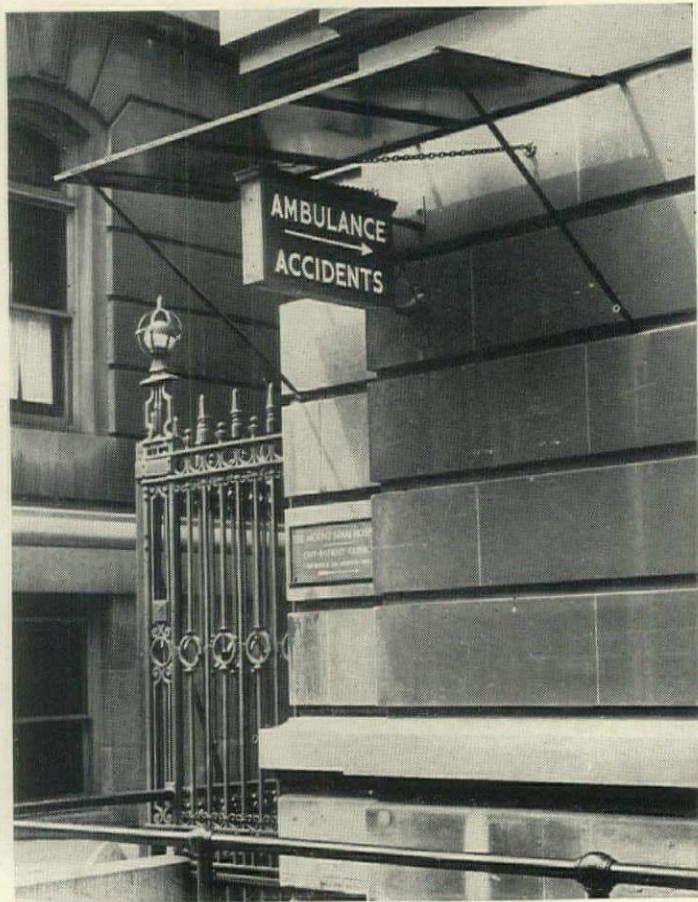
# A. R. P. IN HOSPITALS



Rose

## ENTRANCES

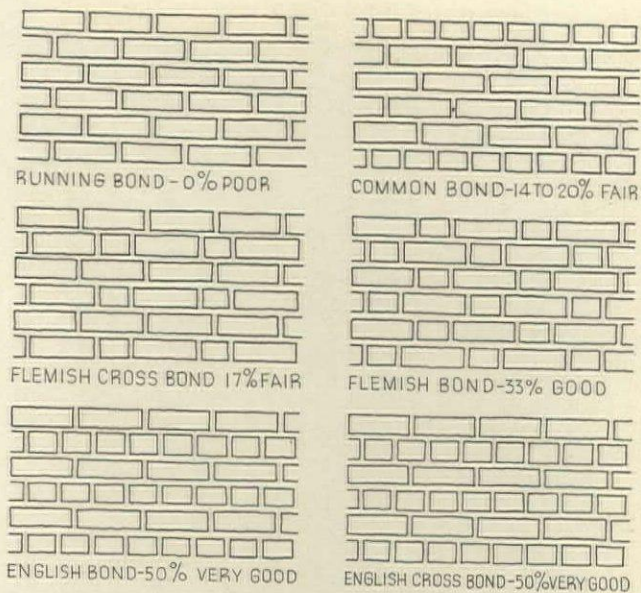
A specially constructed porte cochère, reputedly bombproof, will protect ambulances bringing air-raid civilian casualties to the emergency entrance of this large public hospital (above). Just inside is a 9-ft. brick curtain at the elevator shaft to shield incoming patients against flying debris as they are removed from ambulances. . . . Besides unobstructed access, the hospital's admitting units should have entrance signs easily identifiable during raids. Reenforced overhangs of 22-gage, black metal give signs in this large private hospital (below) protection for blackouts as well as against fragmentation.



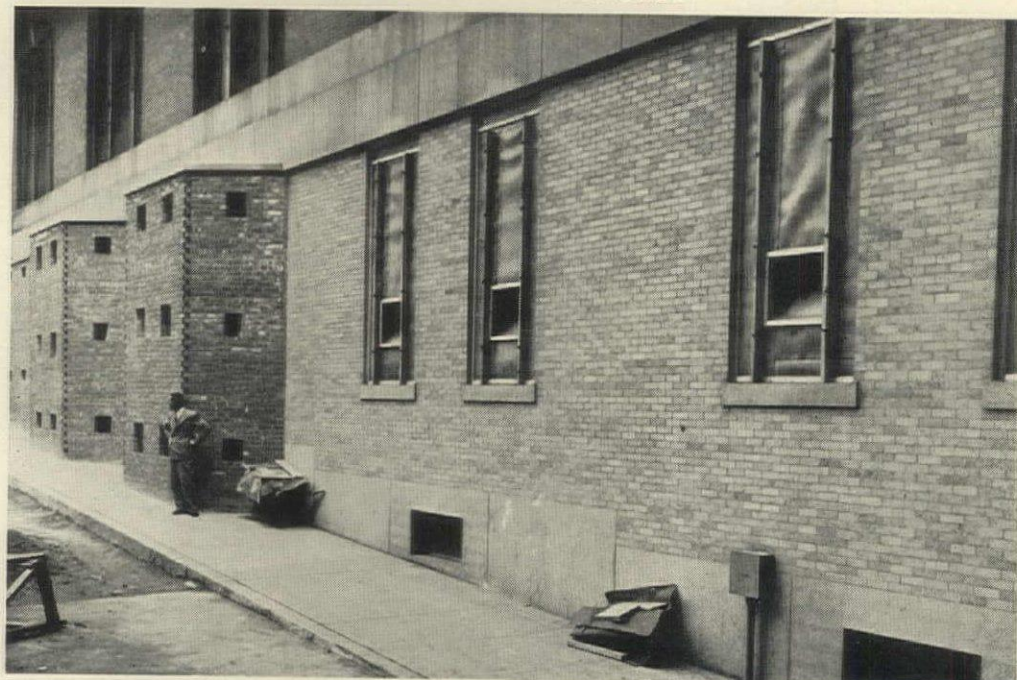
Ehrenberg



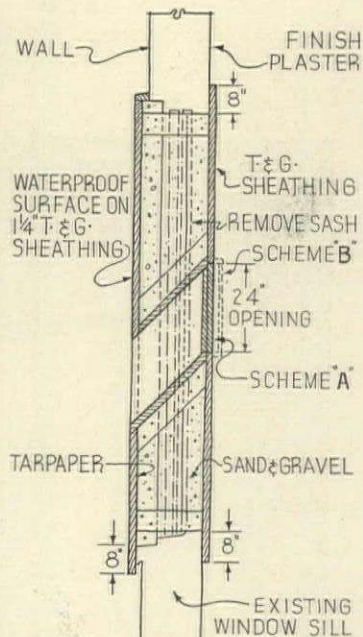




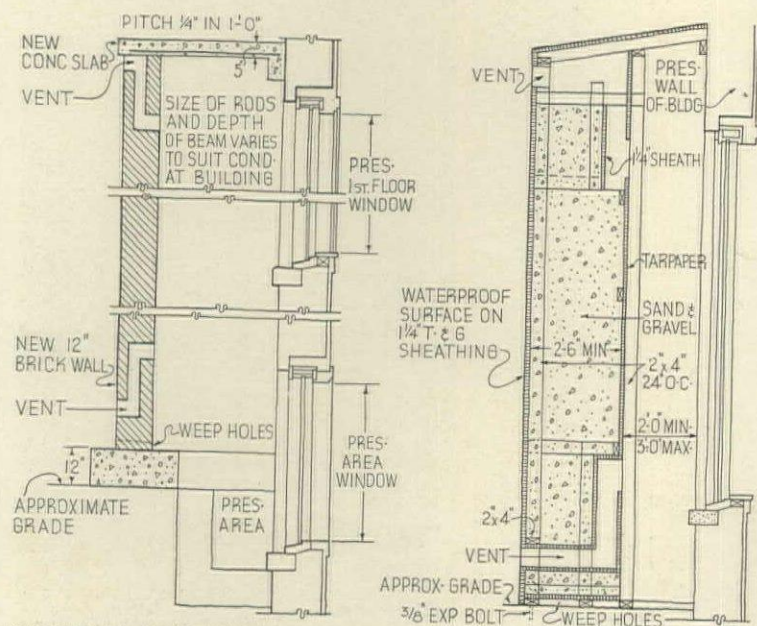
HEADER PERCENTAGES AND BLAST RESISTANCES OF BRICK BONDS



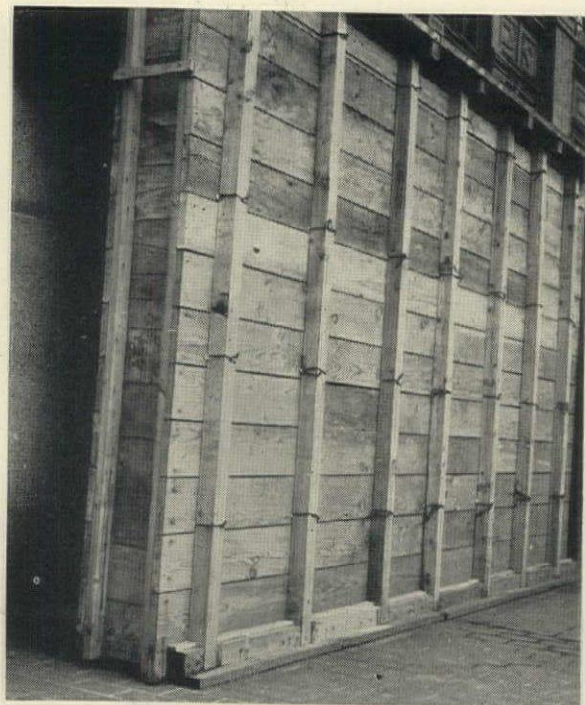
Photos, Rose



SECTION



FIRST FLOOR WINDOW SECTIONS



## WINDOWS

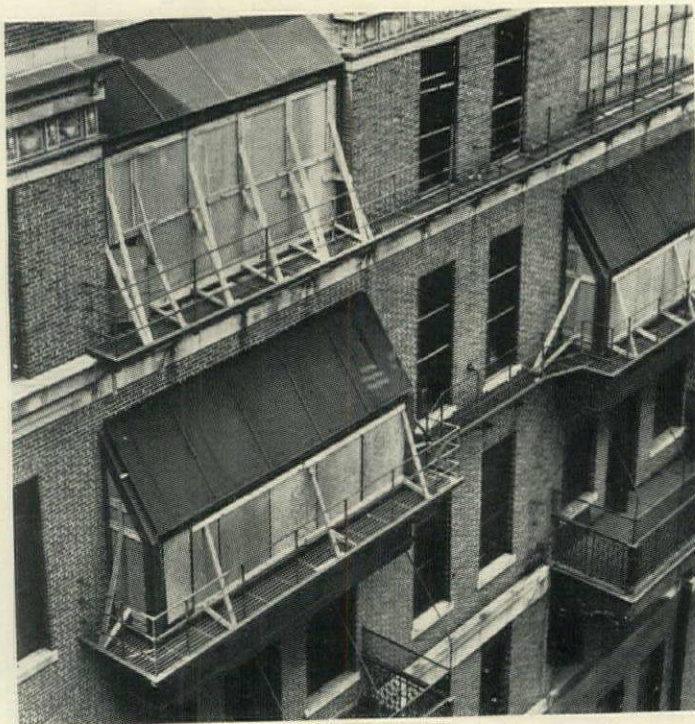
Best defense plan, according to the U. S. Office of Civilian Defense, is to concentrate hospital services on lower floors which are least likely to be damaged by bombs penetrating the building. To guard against bombs striking the ground nearby, lower floors should then have their walls reinforced with additional brick or masonry. (Sandbags were used extensively at War's beginning, but this practice, in light of British experience, is now considered too troublesome and expensive to justify the slight protection afforded.) . . . Since operating rooms depend mainly on artificial light, windows in ground floor units can be blacked completely except for whatever ports may be required to provide natural ventilation. Details below show variations in window barricades for New York public hospitals. Where the hospital is already sheltered by neighboring buildings, windows are merely filled in, but where there is no such shelter, medieval-looking turrets are bricked up in front of each window. The higher the percentage of headers in the brick bond, the greater the brickwork's blast resistance (see diagram, left, from *Aerial Bombardment Protection*).



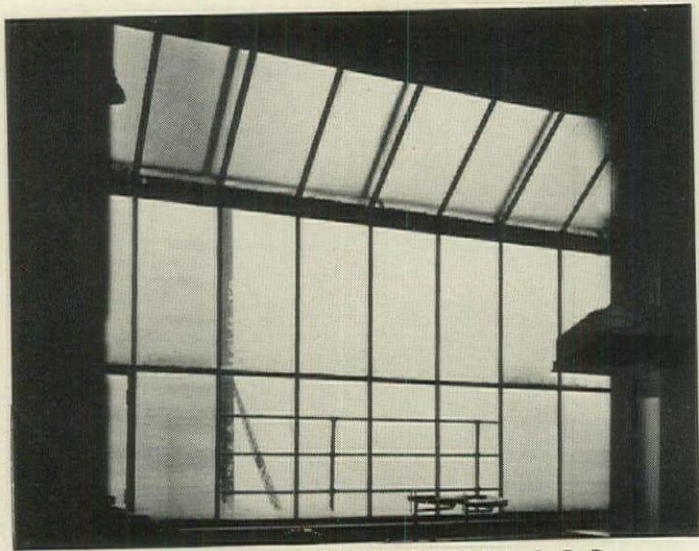
# A. R. P. IN HOSPITALS

## OPERATING ROOMS

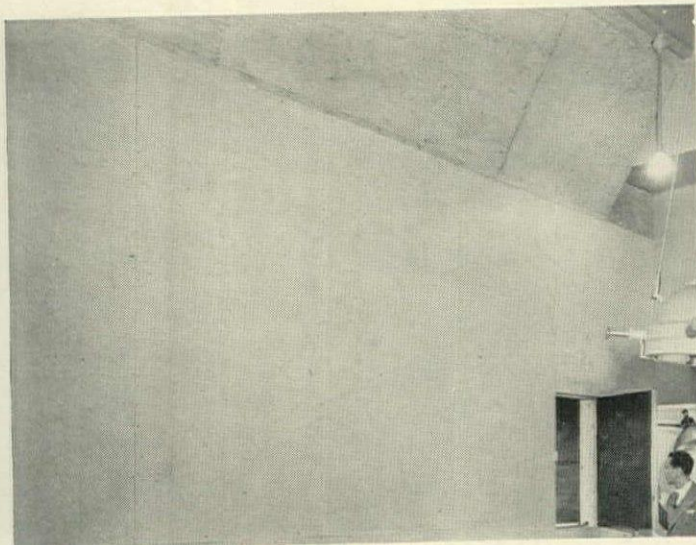
In most hospitals these rooms are usually on top floors. Aside from being dependent on elevator service (a dubious quantity in an air raid), they are remote from emergency entrances, which further reduces their usefulness. The U. S. Office of Civilian Defense warns: "Provision should be made for one or more additional operating rooms in the basement or on the ground floor, depending on the anticipated casualty population of the hospital. The arrangement need not be elaborate, but there must be provision for ventilation, hot and cold water, disposal drains, lighting, heating and sterilization. . . . The rooms should be next to or as near as possible to the reception and resuscitation rooms so that proper liaison can be maintained." . . . Large windows and skylights also help make upper floor operating rooms a wartime headache for hospital superintendents. Missiles must be kept out, tell-tale light kept in. For this dual purpose the standard details shown below have been developed.



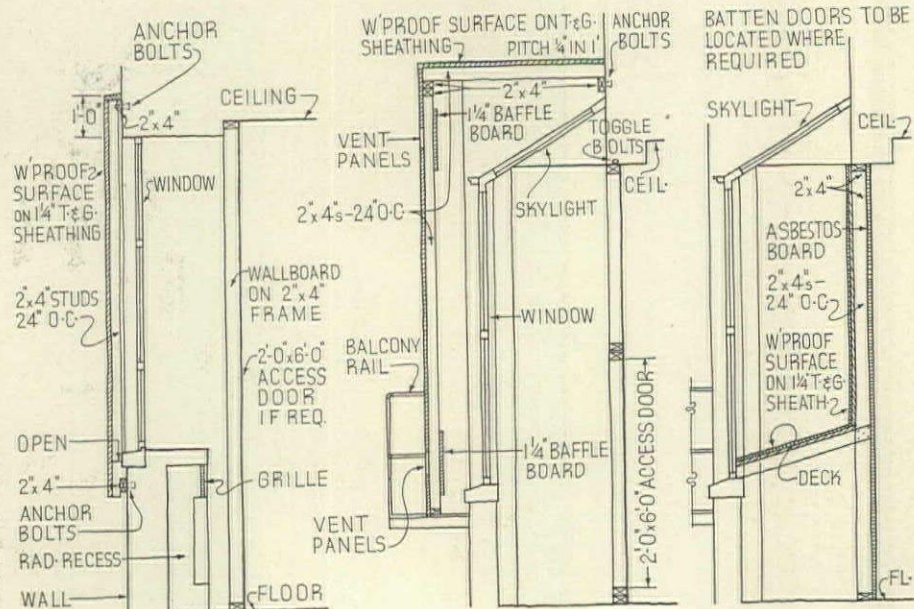
Photos, Rose



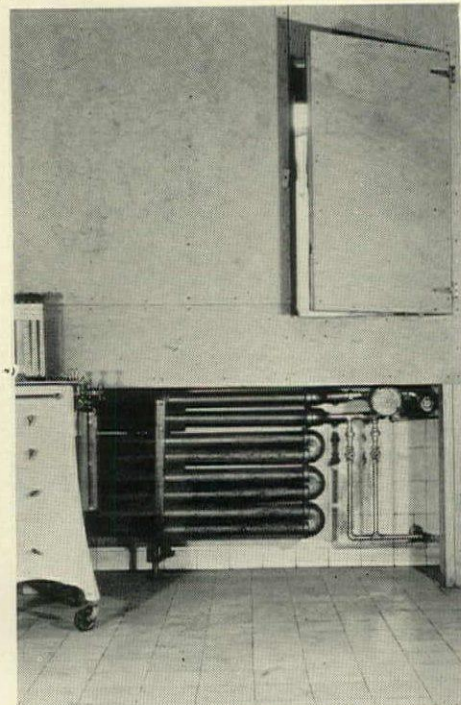
OPERATING ROOM WINDOW BEFORE A.R.P.



AFTER A.R.P. TREATMENT



TYPE "A" TYPE "B" TYPE "C"  
OPERATING ROOM WINDOW PROTECTION (SECTIONS)



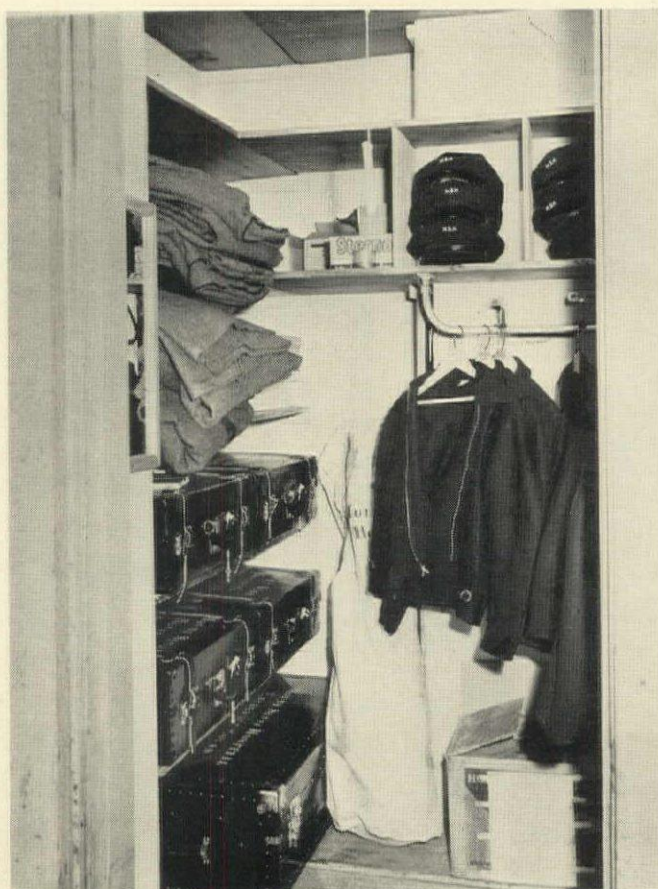
DETAIL OF VENTILATION Ehrenberg





**DEFENSE SUPPLIES ROOM**

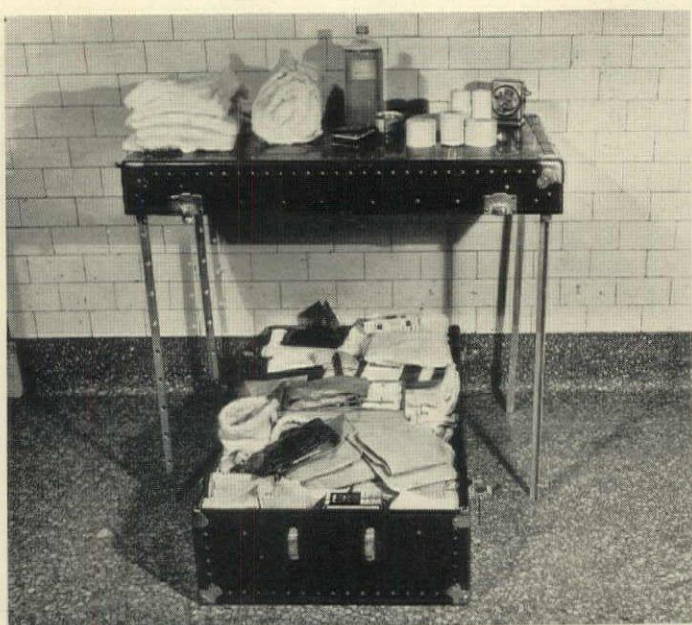
*Photos, Ehrenberg*



**DISASTER SUPPLIES ROOM**



**PORTABLE EMERGENCY LIGHTING SYSTEM**



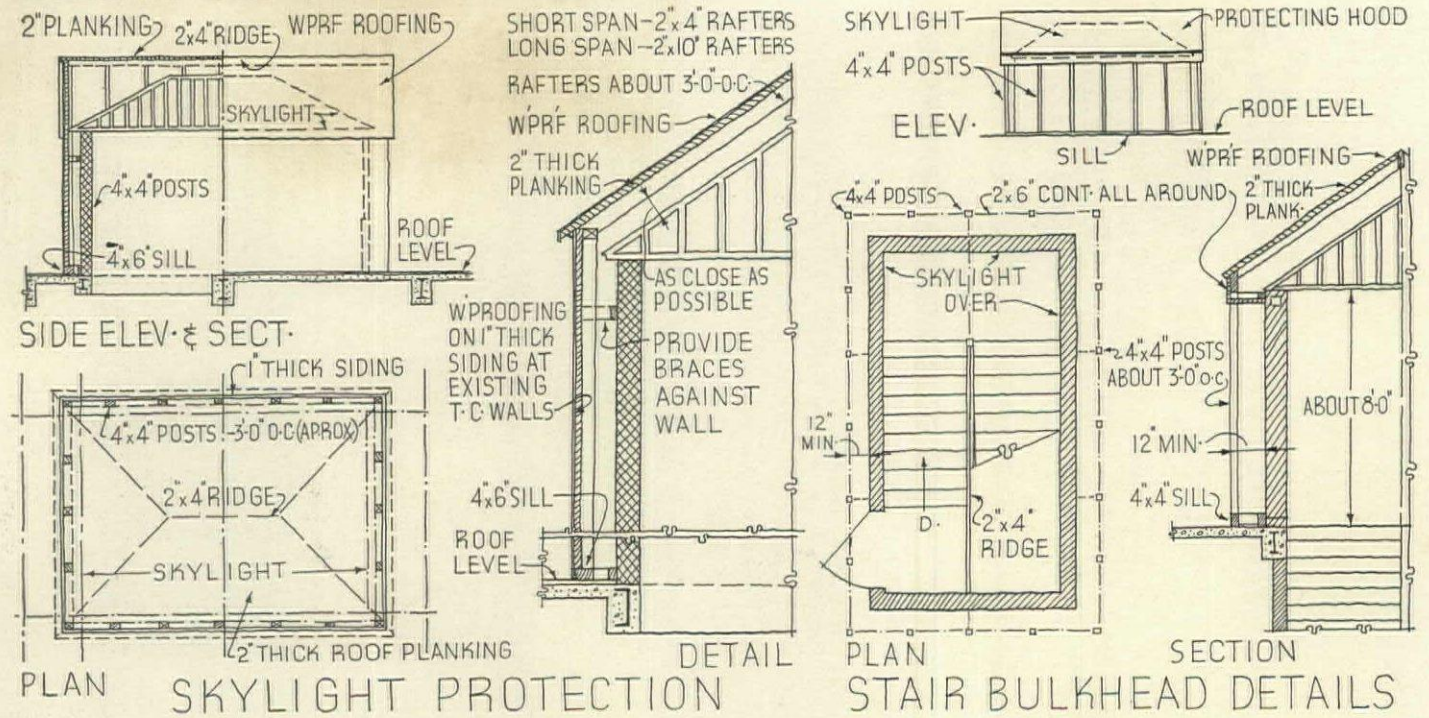
**EMERGENCY TRUNK BECOMES DISPENSARY TABLE**

### **EMERGENCY ROOMS**

For its fire-fighting squads, Mt. Sinai Hospital has two supply rooms on main floor, each equipped with rubber boots, rain-coats, flashlights, stirrup pumps, gas masks, asbestos gloves and blankets, shovels, other paraphernalia (upper left). For emergency use outside the hospital, clothing and portable supplies are kept handy in two other ground floor closets (upper right). The trunks contain bandages, splints, general medicine supplies and blankets, open to form convenient emergency tables (above). Storage batteries with detachable lights (left) are available in case electricity fails.

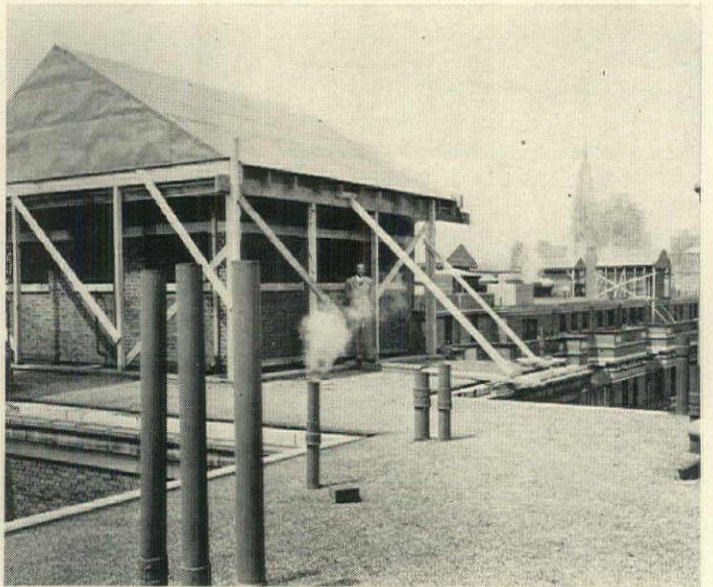


# A. R. P. IN HOSPITALS

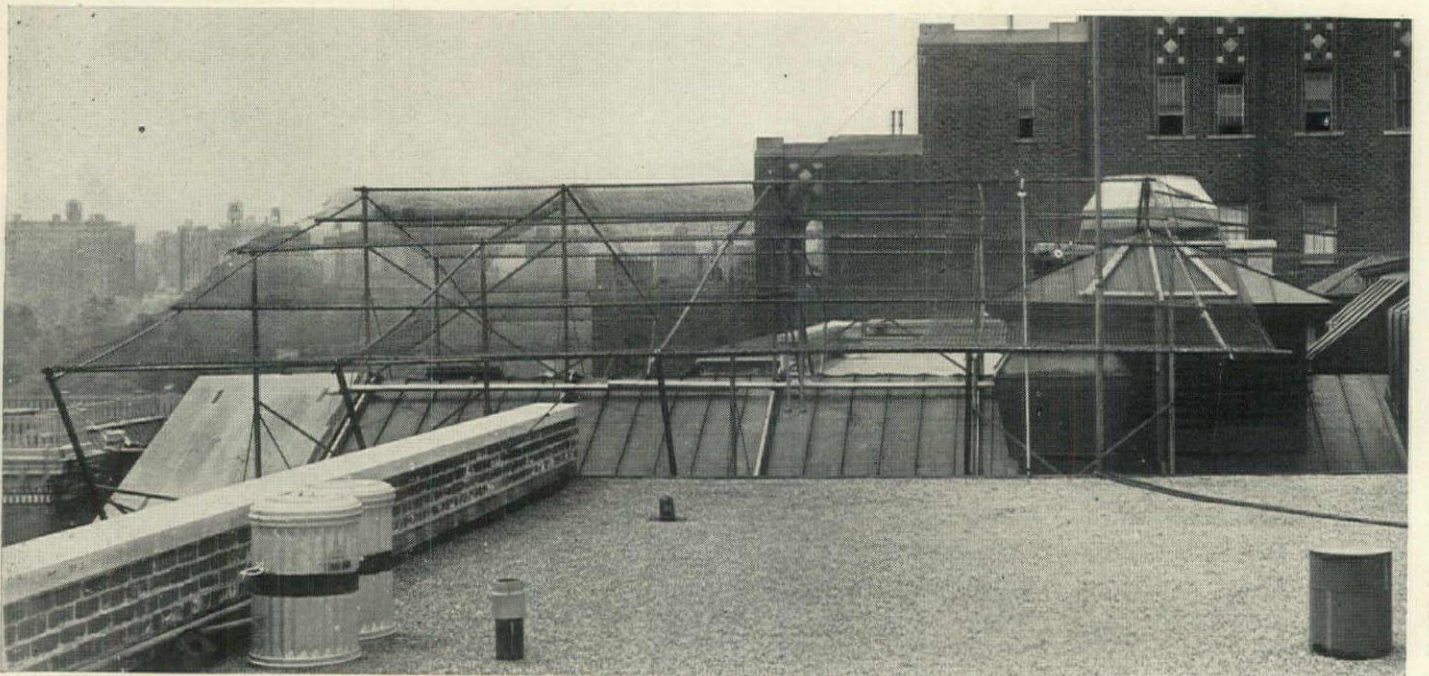


## SKYLIGHTS & ROOFS

Breaking up roof lines may give the hospital a pleasing architectural silhouette in peacetime, but in wartime each roof terrace and set-back becomes simply another area that requires another individual bomb spotter. For the large New York public hospital shown at right, a crew of 75 roof wardens is needed; for the private hospital below, no less than 53. . . . Most vulnerable roof area is the skylight. It should be boarded over with fireproofed timber (see details above) as recommended by Mayor La Guardia's Committee. An alternate scheme for deflecting incendiaries is the wire mesh cage shown below; this, however, has the disadvantage of using a scarce material. . . . To try reenforcing hospital roofs against direct hits by heavy demolition bombs is not considered practical. As the U. S. Office of Civilian Defense notes: "Experience has shown that major structural alterations of existing buildings are not usually possible, and hospitals would do well to confine these changes to protection against fire."



Rose

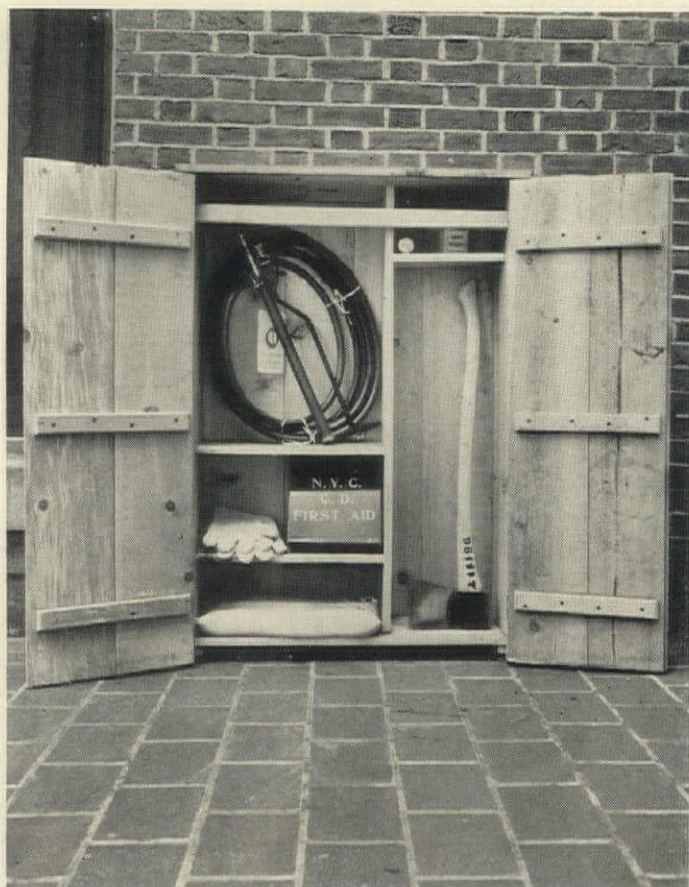


Ehrenberg

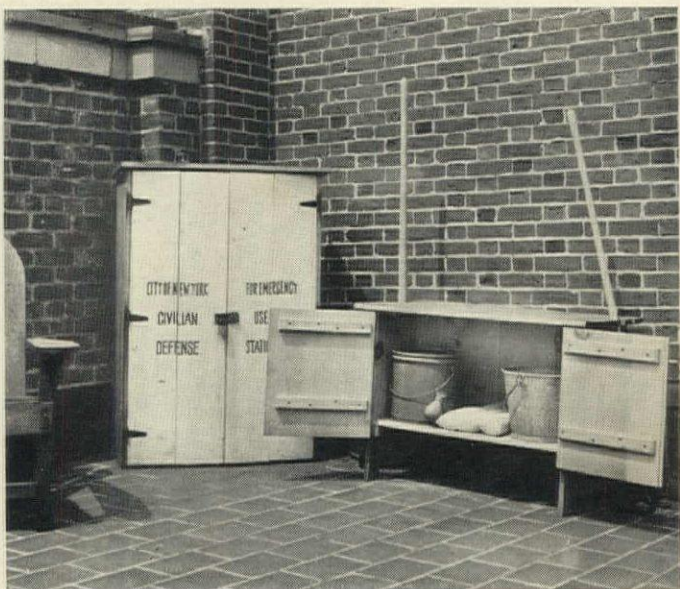
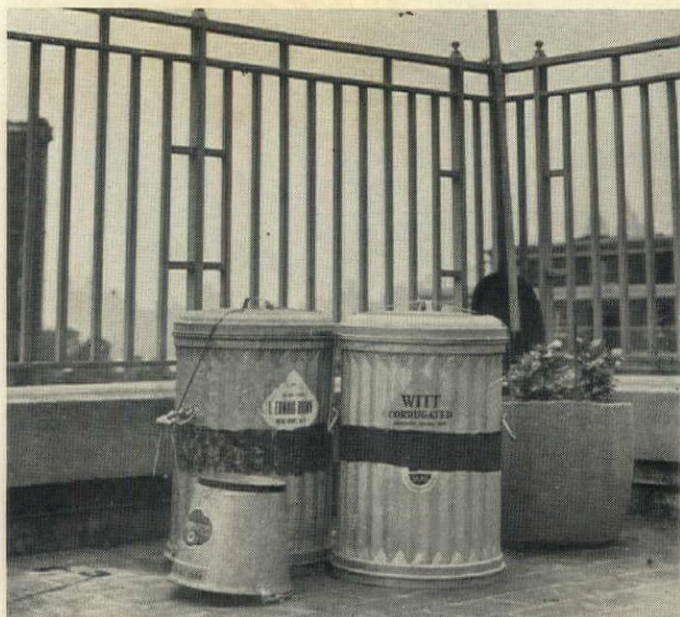


## FIRE PROTECTION

Each hospital requires its own crew of specially trained bomb-spotters and fire-fighters, usually recruited from the regular employees. They should be stationed on the roof during every raid. Readily accessible should be fire-fighting devices such as those shown here: large cans of sand and water, small dispensing pails, stirrup pumps, boxed safety goggles, flashlights, asbestos gloves, axes, stitched sandbags with rope handles, first-aid kits, so on. . . . Roof itself should be fireproofed against incendiaries in whatever way is most practical. Suggested by the U. S. Office of Civilian Defense: fireproof paint (aluminum silicote base), white-washing, asbestos sheeting, in cases where the construction is not already fire-resistant.

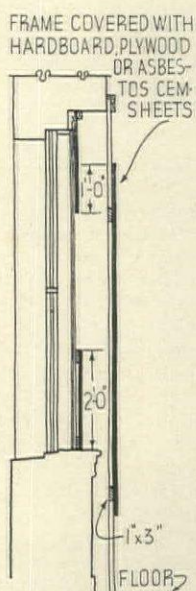


Photos, Ehrenberg

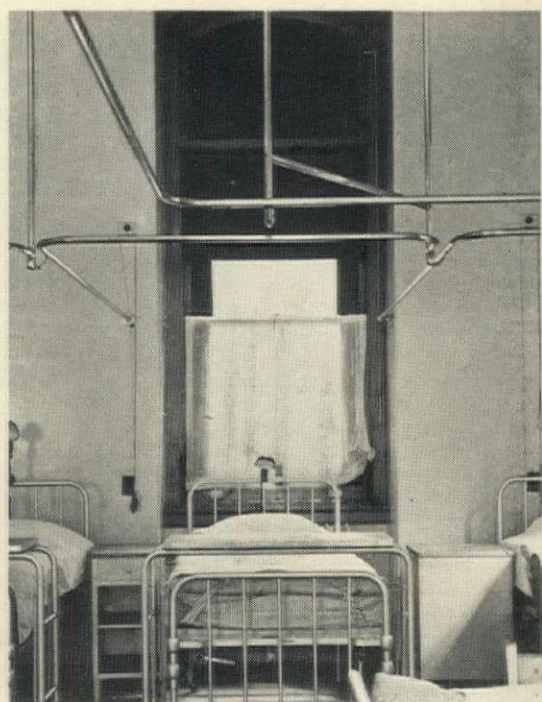


## BLACKOUT

Except in operating rooms, the New York City hospitals usually make no attempt to blackout windows permanently. Reason: fear of an adverse effect on patients' morale. Instead, borders are painted in a waterproof black along top, bottom and sides of each glass sash. This permits daylight to enter the rooms virtually as before, but when shades are hastily drawn, there is no outward leakage of room illumination. Gummed kraft paper is sometimes used to overcome objections to flaking paint. The paper, however, has its own weakness—it tends to peel off, especially after the window has been washed a few times. Where a more substantial type of blackout is desired, the accompanying detail is suggested.

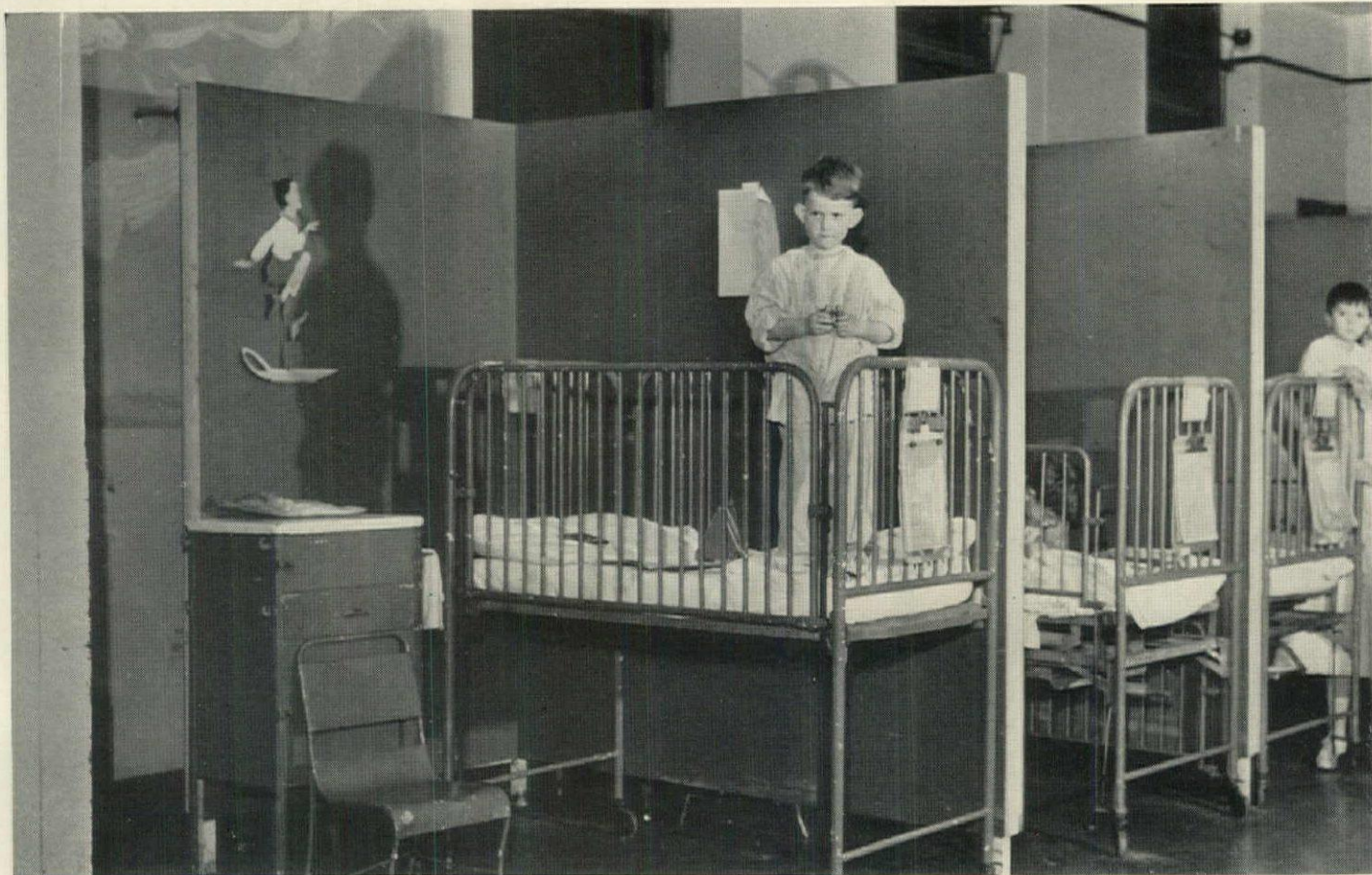


D·H·WINDOW PROTECTION





## A.R.P. IN HOSPITALS



Photos, Rose



### INTERIOR PROTECTION

Plans developed for New York public hospitals call for all personnel to report to designated posts whenever an air-raid alert is sounded. Auxiliary telephone operators, members of the regular staff, immediately set up at separate stations (left), where they remain until the all-clear. This central control coordinates the activities of other hospital defense groups—hall wardens, auxiliary ward aides, gas and electric wardens, roof wardens, demolition squads, blackout squads, gate wardens, auxiliary information clerks, special police, teletypists, auxiliary admitting clerks, stretcher carriers. . . . Even when adequate shelters are available, it is not always possible to move patients from wards. If possible, they are put on mattresses under beds, or else beds are moved away from windows and protected by screens against flying glass. In the children's ward shown above, plywood panels replace glass on cubicle partitions. Decorations add a note of cheerfulness much welcome to small fry who may well wonder what A.R.P. is all about.

### BIBLIOGRAPHY

References below pertain particularly to hospital A.R.P. For more general works, which cover one or more aspects of the subject, see bibliography published in *FORUM*, January 1942, pp. 68 and 60.

**PROTECTION OF HOSPITALS.** Medical Division Bulletin No. 3. United States Office of Civilian Defense, Washington, D. C. The most complete work thus far in the field. Deals all-inclusively with glass protection, ventilation, blackout, personnel and patient morale, rescue and first-aid squads, etc.

**HOSPITALS,** February 1942 et seq., has printed a series of bulletins, "Hospital Protection," issued by Dr. Joseph Turner to various departments at Mt. Sinai Hospital; 17 have appeared, 13 more are in preparation. Sound, practical, full of useful suggestions.

**THE MODERN HOSPITAL,** a monthly publication by the Modern Hospital Publishing Co., 919 N. Michigan Avenue, Chicago, Ill., has had ten articles since January 1942 on the subject. Each issue, 50 cents. Following are the most informative:

January 1942: "Advice to Civilian Hospitals in Providing Emergency Service." Describing organization and work of Emergency Medical Field Units, casualty stations.

January 1942: "Ready for Raids," by Gerald F. Houser. General material about England's Red Cross Field hospitals.

February 1942: "Protection From Air Raids," by Dr. George Baehr. Printed as a supplement, it contains about the same material as the O.C.D. Bulletin No. 3.

February 1942: "Safe and Sane Defense," by Dr. Edward Bernecker. What New York hospitals are doing.

February 1942: "War Measures in a 55-Bed Hospital," by A. A. Aita. What the San Antonio Community Hospital has done for A.R.P.

April 1942: "Ready for Disaster," by Raymond P. Sloan. How the Wyndham Community Memorial Hospital in Connecticut is prepared for protection, to serve the entire surrounding community in emergency.

April 1942: "Hospitals Mobilize for Care of Civilian Casualties," by Dr. George Baehr. Describing movement of nurses and doctors, casualty stations, vehicles for casualties. Exceedingly valuable article.

**AERIAL BOMBARDMENT PROTECTION,** by Harold E. Wessman and William A. Rose. John Wiley & Sons. This volume contains much material on such subjects as glass protection and brick-work (the illustration on p. 49 is taken from it).



# *What happened to* **HAUSSMANN**



*Baron Georges-Eugène Haussmann*  
1809-1891

by ROBERT MOSES

*An American builder of today looks back at a Parisian predecessor and draws some conclusions for post-war rebuilding of cities. Author of the unified park system of the state and city of New York, Robert Moses speaks with admiration of the great Baron who rebuilt Paris.*

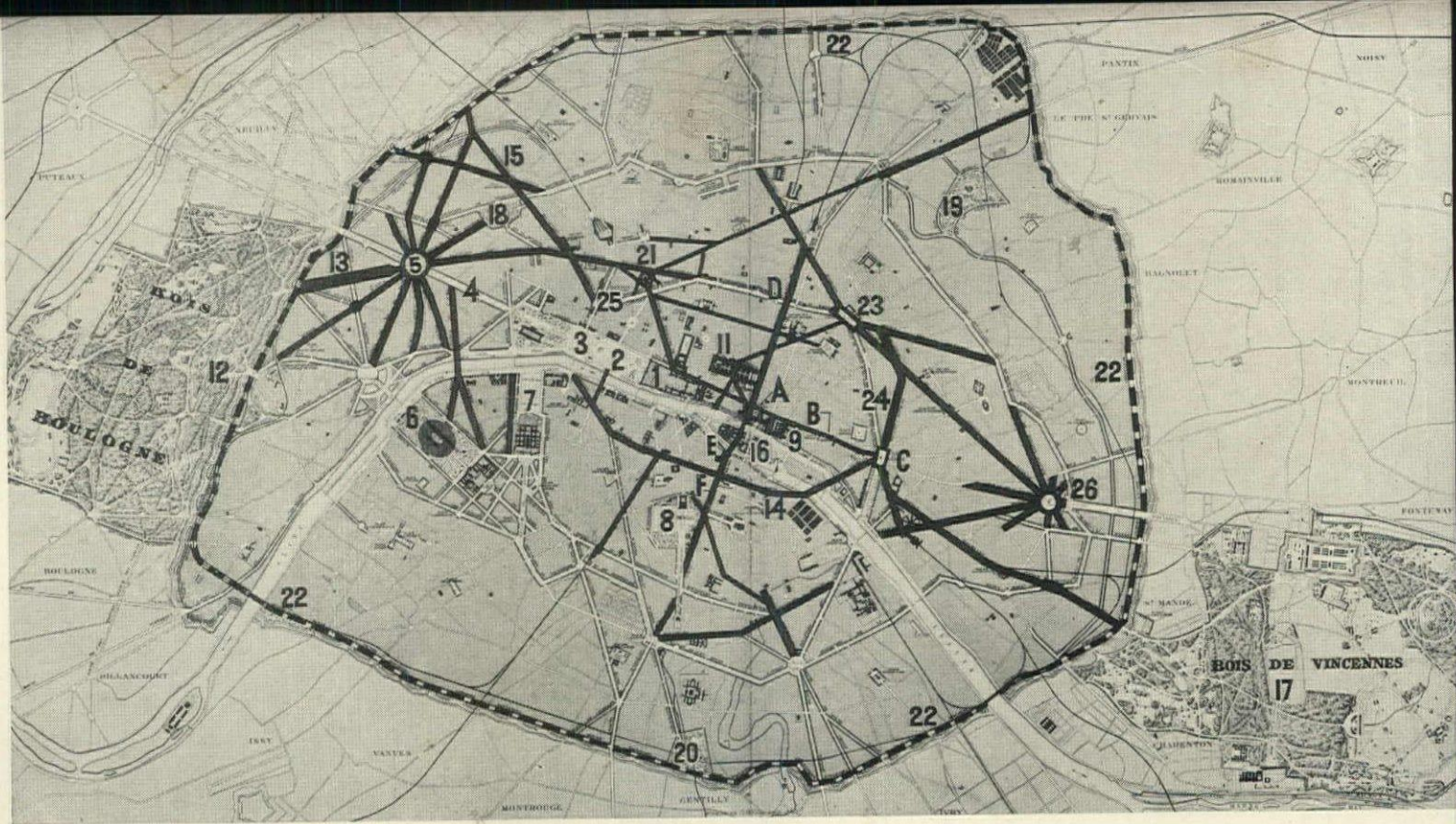
Although Baron Georges-Eugène Haussmann belongs to the Paris of the last century, his story is so modern and its implications and lessons for us so obvious that even those who do not realize that there were planners before we had planning commissions, should pause to examine this historic figure in the modernization of cities, learn a few home truths from what happened to him.

Baron Haussmann has been described as a "Brawny Alsatian, a talker and an epicure, an ogre for work, despotic, insolent, confident, full of initiative and daring, and caring not a straw for legality." Everything about him was on a

grand scale, both good qualities and faults. His dictatorial talents enabled him to accomplish a vast amount of work in an incredibly short time, but they also made him many enemies, for he was in the habit of riding roughshod over all opposition.

He had studied law and music, and had served in various civil service capacities during the Bourgeois Monarchy and the Second Republic, and his skill in manipulating public opinion in the plebiscite brought him recognition. In 1853 he was rewarded by being called to Paris and given the post of Prefect of the Seine which he was to hold until January 1, 1870.

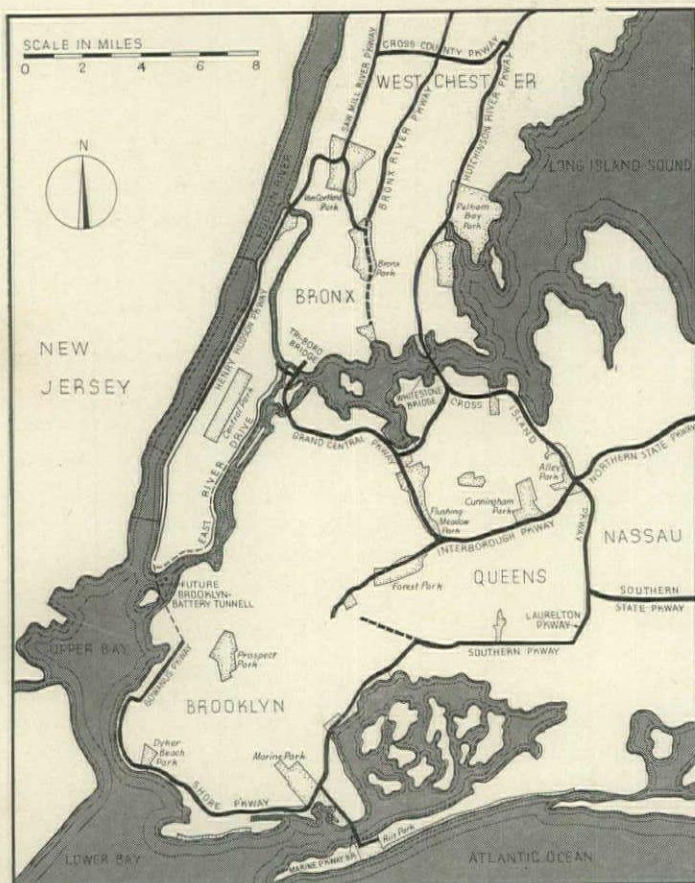




Key to places numbered on plan which are mentioned in the text or illustrated. 1. Louvre 2. Tuileries Gardens 3. Place de la Concorde 4. Champs-Élysées 5. Arc de Triomphe—Place de l'Etoile 6. Champ-de-Mars 7. The Invalides 8. Luxembourg 9. Hotel de Ville 10. The Great Crossroads:

A—Place and Tour St-Jacques B—Rue de Rivoli C—Place de la Bastille D—Boulevards de Strasbourg and Sébastopol E—Place St-Michel F—Boulevard St-Michel 11. The Central Market 12. Bois de Boulogne 13. Avenue du Bois-de-Boulogne 14. Boulevard St-Germain 15. Boulevard Malesherbes

16. Ile de la Cité and Notre Dame 17. Bois de Vincennes 18. Parc Monceau 19. Parc des Buttes-Chaumont 20. Parc de Montsouris 21. The Opéra 22. Semiexpress belt highway along former fortifications 23. Place de la République 24. Boulevard Richard-Lenoir 25. La Madeleine 26. Place de la Nation.



New York. The great system of express parkways developed by Commissioner Moses.

An imperialist both by birth and conviction, he rode the full tide of success which swept Napoleon III and the Second Empire into power, and in the Emperor he found a sym-

pathetic backer and supporter. They agreed on essentials, both as to ends and means, and were in accord as to the necessity of making Paris the worthy capital of a great nation and transforming it into the artistic, fashionable and cultural center of Europe.

Haussmann's immediate task upon his arrival at the Hôtel de Ville was to organize. The broad outlines of the transformation of Paris had already been sketched by Haussmann's predecessors and by the Emperor himself, but it remained for Haussmann to elaborate and execute. Paris was a medieval city to which a sophisticated modern population was struggling to accommodate itself, and Haussmann's great merit lay in the fact that he was both able and willing to grasp the entire problem. In justice to his predecessors, however, it must be recalled that many of the larger lines had already been boldly drawn, from the early efforts of Henry IV, through the times of Richelieu, to the improvements carried out by Louis XIV, Napoleon I and Louis Philippe. The westerly Louvre-Tuileries axis existed in the Champs-Élysées from the spacious Place de la Concorde to the Arc de Triomphe. Other axial groups also existed, notably the Ecole Militaire—Champ-de-Mars—Trocadéro area (site of many expositions), the Invalides group and the more modest Luxembourg composition.

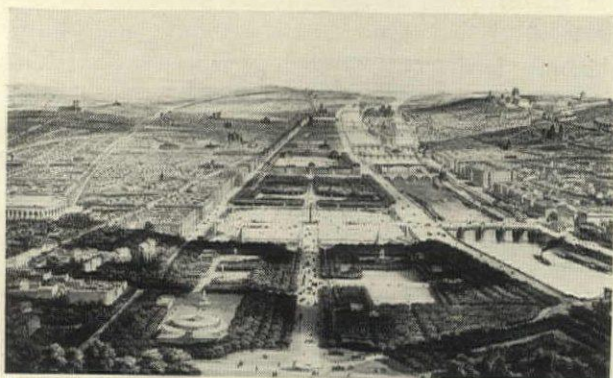
The principles of axial symmetry and vistas for monumental effects had thus been well established by French Renaissance architects. Furthermore, the first Napoleon's regulations of street alignment were showing satisfactory results in more generous widths of streets.

It was Haussmann's task to open up, interconnect and extend the approaches to these monumental compositions by providing modern thoroughfares properly graded, sew-





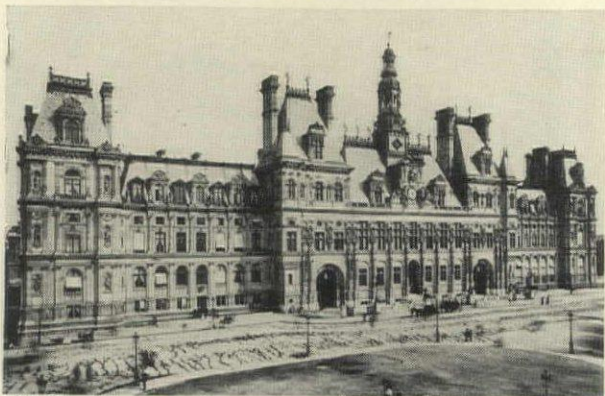
Connecting Loop between Grand Central Parkway and Interborough Parkway, N. Y.



Paris, 1865



Square de la Tour St-Jacques, Paris



Hôtel de Ville, Paris

ered, lighted and planted, of adequate width to accommodate traffic requirements of the ever-growing capital. The headaches involved in handling heavy traffic at diagonal intersections had not yet arisen.

The new Prefect dealt sternly with the old Municipal Commission, dismissing those who were not disposed to work with him and reorganizing it into an efficient body. They were not, as he put it, "subject to the accident of vote," but appointed by the Emperor upon whose co-operation he could rely. For his staff, he selected men from many fields. Not a few members of the organization were relatively unknown, but he was astute in his choice, and his assistants grew up with him. His chief engineer, Belgrand, had been a subordinate in a provincial town. For mapping and general layout he chose Barillet-Deschamps, erstwhile chief surveyor of the city. In Jean Alphand he found a "gardener-engineer" who combined a keen artistic sense with a practical turn for horticulture. Alphand's monumental work, *Les Promenades de Paris*, clearly shows the care with which all details were developed.

The work of the transformation of Paris had been divided into three stages for accounting purposes, although Haussmann regarded it as a unit. This arrangement, however, simplified the submission of the budget, and since it established a satisfactory chronological schedule of the work to be accomplished by each appropriation, the division was continued.

The work of the first project, largely on the Right Bank, included the completion of the Great Crossroads of Paris which had been begun by his predecessors. The Rue de Rivoli was extended from the Place de la Concorde to the Bastille as the east-west arm of the cross, and the Boulevard de Sébastopol formed the north-south branch. The work involved widening and aligning old streets and cutting new ones through the maze of narrow alleys of which Paris was composed. Demolition was on a grand scale. In some cases whole quarters were reconstructed. Historic monuments and buildings, wherever possible, were freed from the surrounding mess of ramshackle houses, new squares provided light and air and afforded broad vistas in the formerly crowded area, and the old Central Markets were completely rebuilt. This initial, large-scale reconstruction indicated clearly the kind of treatment the Prefect had in store for the rest of the city.

Also included in this first undertaking was the development of the Bois de Boulogne. The Bois, then a muddy and disreputable open space west of the city, became a large park laid out along informal, "romantic" English lines, connected with and made part of the city by the wide and magnificent Avenue de Bois which soon became a favorite promenade of fashionable Parisians.

The second project, known as the 180 Million Agreement, of which one-third was supplied by the State and two-thirds by the City, extended the new arterial system and the improvements of the first project over the city. Wide boulevards were opened in all directions, and those previously opened were linked with the outskirts. The Boulevard St-Germain was enlarged and became the Rue de Rivoli of the Left Bank; the southerly extension of the Boulevard St-Michel joined the various gates of the city to the center and developed large areas which had been isolated and dead because of lack of communication. The new eastern arteries linked the city with the railroad stations which had been placed, for lack of space, in a circle on its outer rim. To the west, Haussmann cut out the magnificent Boulevard Malesherbes and inaugurated a series of related improvements. The new arterial system was taking on a definite form.

The Ile de la Cité, the old heart of Paris, was retained as the civic center, and the work of "constructive destruction" went on.





Ile de la Cité in the Seine.



Bois de Vincennes, Paris



Shore Road, Brooklyn, N. Y.

Miserable hovels and old rookeries were sloughed away, and narrow streets were widened to give space, vistas and new settings to the Cathedral of Notre Dame and to great public buildings and historic monuments. Later, when Haussmann was elected to the Academy of Beaux Arts, he boasted to his friends that he had been chosen as the "demolition artist."

The building of parks continued. The Bois de Vincennes in the eastern section provided for the poor working people the recreation ground which the Bois de Boulogne offered the wealthier classes to the west. In the northwest corner of the city the Parc Monceau was remodeled. Later, during the third project, when Buttes-Chaumont to the northeast and Parc de Montsouris to the south were completed, Paris was provided with public recreation areas which, together with the formal gardens, squares and river quais of former administrations, gave the French capital the finest park system in the world of the nineteenth century.

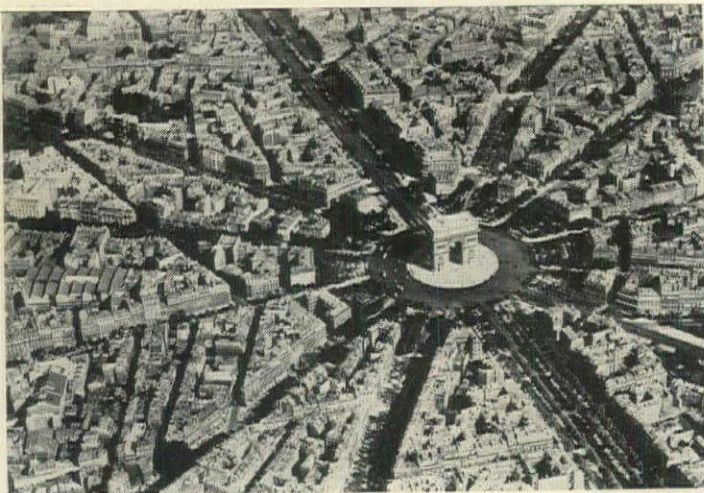
The new boulevards leading from the city to the outskirts brought into sharp relief the plight of the suburbs. The demolition of their old quarters had driven many of the poor outside the city limits, and lack of space within the old city walls had forced new factories and workers to spread to the suburbs. Here they were caught between the tariff barriers, old barricades and new fortifications, which, having been built with only military considerations in mind, had disrupted even the original poor means of communication. The new boulevards which had already been built usually extended only to the barricades, and the suburbs had only sketchy and inadequate connections with the city. Poor

communications hindered the growth and prosperity of the suburbs and marred the approach to the magnificent city which Haussmann was rebuilding. In 1859 the situation had become intolerable, and it was decided to incorporate the suburbs into the city.

The third project consisted not only of extending boulevards in all directions to and through the newly annexed sections to tie them to the city, but also of completing the ring of interior boulevards within the new metropolis. Work begun in the west was pushed. The Place de l'Etoile, with its magnificent boulevards radiating in all directions, and the Champs-Élysées and the Place de l'Opéra were completed, and became the fashionable center of Paris.

These projects included not only the arterial system and circle of parks, but widespread slum clearance; the erection of public buildings, and the preservation and restoration of historic landmarks. New bridges were built across the Seine, the city was dotted with open squares, the boulevards lined with trees and benches and lighted by gas lamps. A complete new water system of reservoirs, conduits, artesian wells and aqueducts provided the city with an abundant supply of pure water, and the new sewer system made Paris as remarkable underground as it was above.

The greatest proposal, the development of a green belt around the entire city on the site of the outer fortifications has never been fully attained due to the opposition of short-sighted politicians while the Emperor was campaigning in Italy. This would have given Paris a magnificent belt parkway connecting the Bois de Boulogne with Vincennes, and



Place de l'Etoile and Arc de Triomphe. A super "rond point" developed by Haussmann.



Park des Buttes-Chaumont, converted by Haussmann's engineers from an old quarry.



adequate space for local recreation properly distributed in the outer residential districts. A large part of this area has been built up, and only within the last decade the scheme has been partially realized by the development of a semiexpress highway and small playgrounds at intervals where the land values were not prohibitive.

Hausmann's work has been called unimaginative and lacking in taste and feeling; he has been criticized for over-emphasis on military considerations and for clearing out slums simply to prevent the erection of barricades which militant democracy traditionally threw up in the narrow streets. These criticisms are not without some justification, but as Hausmann himself said to his critics, "In general, all new work makes an unfavorable impression because it is a change that upsets settled ways of life. But this first impression is fleeting; it soon gives way to a juster and more generous appreciation." As to the influence on the Baron of military considerations, who can say that our own post-war plans of tomorrow will not be increasingly subject to military demands? The grandeur and simplicity of Hausmann's plans lent a dignity to the city which previously it had lacked, and excessive use of the straight line and the monumental aspect of his work have been largely compensated for by the logic, the vastness and the breadth of the plan.

One of the outstanding characteristics of nineteenth century Paris was, and still largely is, the architectural uniformity along most of its great boulevards. This treatment was begun by Napoleon I, whose architects designed the typical façades of the Rue de Rivoli opposite the Tuileries Gardens. A continuous height of four stories plus attic floors combined with the sloping roof, unbroken lines of balconies with uniform fenestration, arcaded sidewalks which protect shoppers and conceal the commercial obtrusiveness of shops, have brought about a simple dignity and charm which have been widely copied elsewhere. Contemporary architects continued this development along the Rue de Rivoli and amplified it in other parts of the city. A typical "tenement" of uniform façade without arcaded walks on the Boulevard de Sébastopol includes shops on the ground floor, a mezzanine, three main floors with apartments for upper middle class tenants, and two attic floors in the sloping roof for servants and tenants of the poorer classes. This functional arrangement gave Paris a unique "silk hat" finish, but actually fell short of solv-



Bridge, Place, Fountain and Boulevard St-Michel showing the "Haussmannization" of a prominent street intersection.

ing other more vital problems of comfortable, healthy living.

At important street intersections these relatively simple façades were elaborated. A remarkable "Haussmannized" corner is illustrated in the fountain which has been built into the structure opposite the Place St-Michel. It is an amusing quirk of our American law that it is the façade of private buildings we hold sacred from Government regulation.

The failure of Hausmann's plans to eliminate congestion in new and rebuilt areas due to increasing land values without limiting densities of population through zoning and other building restrictions is a common fault which is far from being corrected in most cities even at this day.

The cost of financing these huge works was tremendous, but this did not frighten Hausmann. He believed in the theory of "productive expenses." "Foreigners and provincials would be attracted to the fine new city, would flock there to spend their money and would pay the expense of the new buildings. The shops would reap a harvest, the bourgeoisie would invest their money in the ground rents of the new streets, and the working classes would have full-time employment; everyone would prosper." Nor was this a wild assumption as the yearly financial statements showed. The budget surplus increased steadily from eighteen million francs in 1852 to eighty million in 1869 as a result of the growing population and the increased prosperity of the city.

The total expenditures incurred by Hausmann amounted to five billion francs, not in fact an exorbitant sum in view of the scope of the work or in the light of what it would have



Rue de Rivoli opposite the Tuileries Gardens. The official design of the façades gives this important street a suitable frame for the gardens.



Roosevelt Park, play and athletic areas on an abandoned slum-clearance project in lower Manhattan.



cost had it been delayed. Of this total, two and one-half billion francs were provided in the regularly approved budgets submitted by Haussmann. In addition to the work thus provided for, Haussmann expanded the improvements and anticipated the payment of these expansions through the customary use of surplus receipts of the budget, state subsidies and money realized from the sale of salvage and land. These expanded facilities plus rises in the cost of the work, which apparently were underestimated, amounted to an additional two and one-half billion francs which were termed "extraordinary expenditures."

Haussmann gave three main reasons for these excessive costs: spreading the construction of the second project over ten years to avoid bringing too many workmen into the city led to combinations and frauds; the courts forced the immediate settlement of the condemnation cases, thus depriving the city of the advantages of negotiating fair agreements; the Council of State decreed that proprietors of condemned land could keep the part not included in the improvement, and the city lost the right to sell these lands. Added reasons were the rising cost of living reflected in increased construction costs, and exorbitant awards by the jury in condemnation cases.

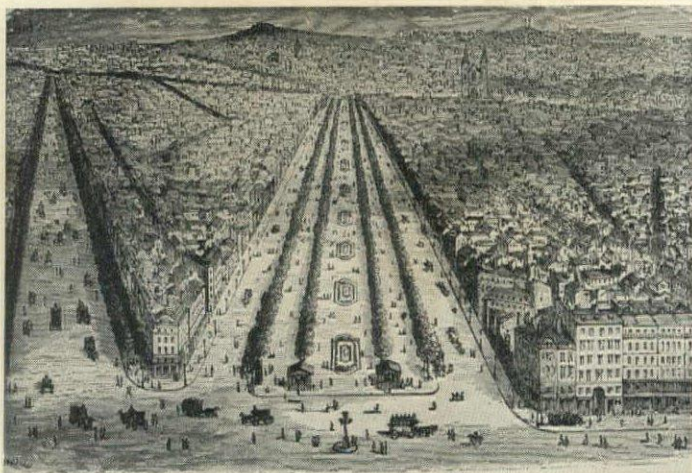
Haussmann, however, as the work progressed and the "extraordinary expenditures" increasingly exceeded the surplus receipts, refused to borrow the money in the regular way. He continued to depend on the surplus receipts which he was convinced would come in an ever-increasing stream, and the transformation of Paris would be paid for without any further financial burden on the city. Thus he followed his own course, bold, headstrong, arrogant and confident, underwriting obligations which he felt certain he could meet, and authorizing the opening of credits which he believed he could repay. It was a policy which would have been acceptable if he had not taken upon himself the sole responsibility for the decisions. All that was necessary was to organize his treasury to allow sufficient time to meet the obligations.

The creation of the Caisse des Travaux de Paris in 1858, a credit bureau for public works, gave him independence of action which he needed in the financial field. The idea of a Caisse des Travaux was to provide a source of credit and through the issuance of bonds make up temporary deficits in funds necessary for improvements.

The complicated handling of funds, the risks involved in the financing of these works, and all the complications inherent in any large public enterprise might have hindered seriously the work of transforming Paris had it not been for the regulating mechanism of the Caisse. The danger of institutions of this sort, however, lies in the temptation they offer the director to expand their functions when the need for funds is pressing. And Haussmann was constantly short several millions. The organization which had been set up to facilitate the work of the Treasury tended more and more to become a bank.

As the need for funds became more pressing, Haussmann resorted to irregular procedures which supplied the necessary funds but which, in the end, resulted in a situation that placed him at the mercy of the Legislature.

As the work progressed, Haussmann replaced direct work by the city forces with contract work wherein each contractor undertook the entire financing of a particular section of the



Boulevard Richard-Lenoir, built by Haussmann over an old canal.



"Come on bourgeois, get up quick. It's your turn, I have to tear down your house."

Drawn by Honoré Daumier for the magazine *Charivari*, December, 1852.



Clearing the way for the widening of Hicks Street, Bklyn., N. Y.

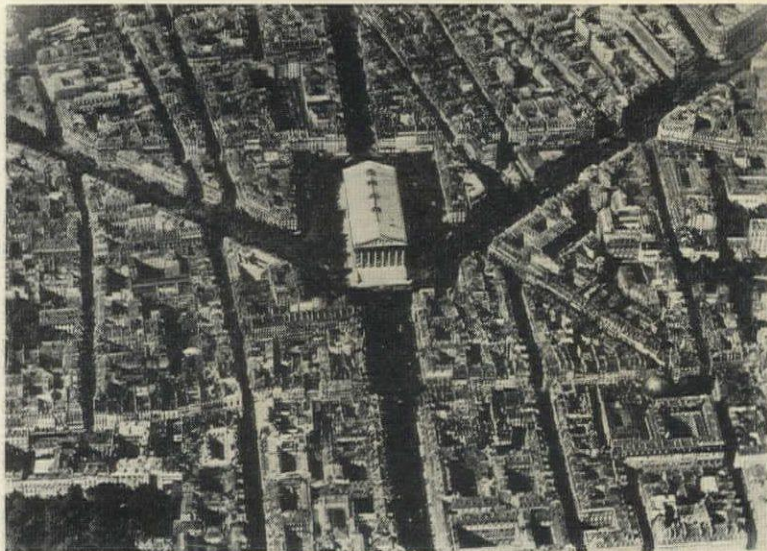


work, and the city acknowledged itself the debtor of a loan payable in six to eight years. To insure itself against all risks involved in the awarding of indemnities, the city required the contractor to deposit in the Caisse the sums needed to pay all condemnation awards. In exchange for the deposits placed in the Caisse the contractor received negotiable "delegation bonds." Despite the warning from the State Auditors that these securities were simple deposits, Haussmann contended that once they had been paid into the Caisse they became a part of his cash balance and were used as such.

As previously stated, the total cost of "extraordinary expenditures" reached the unexpected total of approximately two and one-half billion francs. Of this sum Haussmann had realized through surplus receipts, the sale of salvage and land, state subsidies and loans, a total of approximately two billion francs, leaving a deficit of about half a billion francs. Haussmann through his irregular manipulations had received sufficient cash in hand which, in combination with the notes and bonds he had issued, covered all but a fraction of the construction costs.

As the liabilities began to pile up against the limited yearly surplus, a situation developed which forced Haussmann to revise his methods. Concentration of a majority of the "delegation bonds" in the Crédit Foncier, a state bank which advanced long-time loans on real estate, forced Napoleon III to order his Prefect to regularize the bonds by an agreement with the Crédit Foncier. This agreement spread over sixty years the payments which were to have been met with the floating capital of the Caisse between 1868 and 1877. This required new funding and actually forced the city to pay off a retroactive loan made after the funds had been spent. The Prefect also awoke to the fact that he had exceeded the debt limit of the Caisse, and it would be necessary to increase the municipal debt accordingly and to turn to the Legislature for approval.

Two years later the Agreement of 1867, covering three hundred and ninety-eight million francs in "delegation bonds," was approved by the Legislature. It also provided means for the payment of sixty-seven millions which were owing to various contractors and real estate agents.



The church of the Madeleine on the axis of the Rue Royale. The tree-lined thoroughfare to the left is the Boulevard Malesherbes.



Central Park, N. Y. Set aside in the middle of the 19th century, neglect and intensive use compelled the present administration to make extensive repairs.



Underpass for the semiexpress belt highway along the former fortifications which Napoleon III hoped to develop into an extensive greenbelt.



Henry Hudson Parkway extends for seven miles along the Manhattan shore of the Hudson River. Reconstructed Riverside Park covers the New York Central Railroad.



The position of the Prefect of the Seine had been strong during his first years in office. He had firmly entrenched himself in the Hôtel de Ville, had consolidated his authority throughout the city and was virtually Minister of Paris. He attended the meetings of the State Council and the Council of Ministers, and his management of the affairs of Paris became more a national than municipal consideration. Needless to say, there was criticism of the great public works he had initiated, but it came largely from traditionalists who objected to any innovation. Many of his critics failed completely to grasp the scope of the work or the changes which were taking place. Thiers, one of his bitterest opponents, once remarked, "Do people out walking need to go from the Madeleine to the Etoile by the shortest route? On the contrary, promeneurs want to prolong their walks. That's the reason they will take three or four turns up and down the same street."

Political hostilities were not a serious threat as long as the Emperor controlled the Legislature, and the press was muzzled. After 1860, however, the Emperor's position was weakened. Affairs in Italy alienated the clerical party, and the free trade agreement with England the protectionists; the opposition of the Right became stronger, and the Emperor was forced to lean more heavily on the support of the Left. The efficient autocracy of the early years was becoming a democratic monarchy. Political life, especially in Paris, was reviving, and the temper of the Legislature was rising.

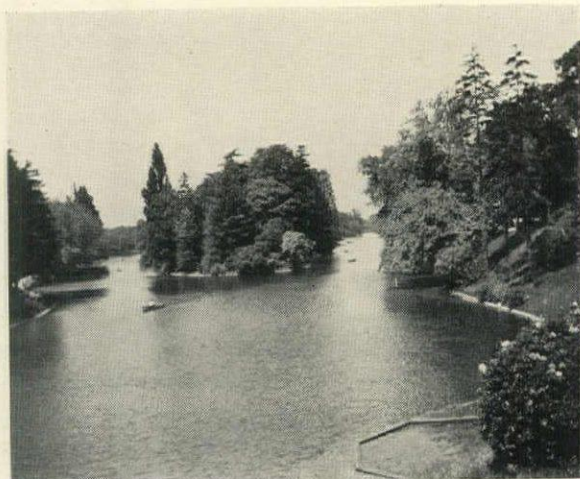
In 1867, after the agreement with the Crédit Foncier regularizing the "delegation bonds," Jules Ferry's pamphlet, *Les Comptes Fantastiques d'Haussmann* appeared and was seized upon by the public. The publication of numerous other articles and the parliamentary debates in the press made the name of Haussmann a byword in Paris. He was criticized both inside and outside Government circles for extravagance, for expropriations and speculation, and even for the rising cost of living, the effects of which were felt by all classes of society.

The republican and liberal forces in the Legislature led by Thiers and Ollivier rallied for the battle over the ratification of the bill regularizing Haussmann's finances. Haussmann, increasingly autocratic after his long years in office and more than ever impatient of parliamentary control, was at last to be forced to account to the Legislature.

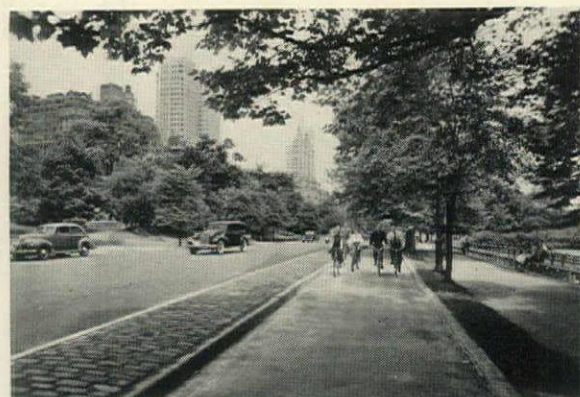
As the Legislature could not vote amendments to any part of the budget, and the credits of any minister had to be adopted or rejected as a whole, Haussmann had hoped to present the budget of his extraordinary expenditures along with the budget for the entire capital. His opponents, since he was not Minister of Paris, were able to prevent this, and he was limited to an accounting of the additional expenditures for his own works. By thus controlling the purse strings for the municipal works, the Legislature had at last gained some real measure of power and supervision. In the future they would be able to check what they termed the extravagant impulses of the Prefect.

In 1869 when the bill was finally introduced, the total outstanding debt amounted to 465 million francs. Even Rouher, Minister of the Interior, who had previously supported Haussmann, was able to offer only a feeble defense in his behalf. He had to admit that the Prefect had exceeded his administrative rights in using such vast sums from the budget surpluses, that the diversion of the securities deposited in the Caisse into its cash balance was highly irregular, and the surpassing of the debt limit of very questionable legality. In spite of the heated debate over the bill, the Legislature, having been faced with the accomplished fact that the money had already been spent, had little choice but to ratify it. But the strength of the attack showed clearly the nature of the changes which had taken place since Haussmann took office.

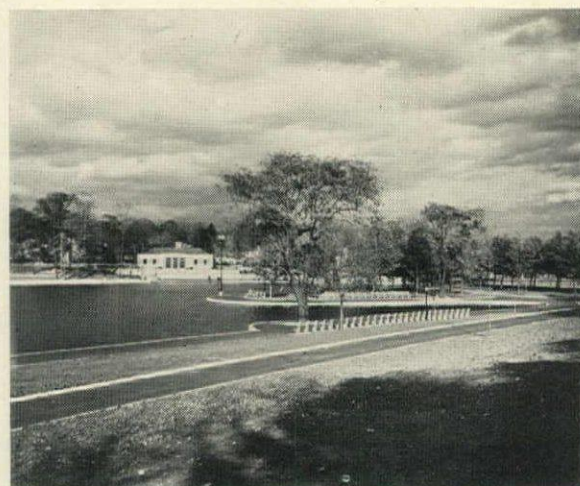
The long struggle left Haussmann's position hopelessly weakened; henceforth he would have to submit to parliamentary control and inter-



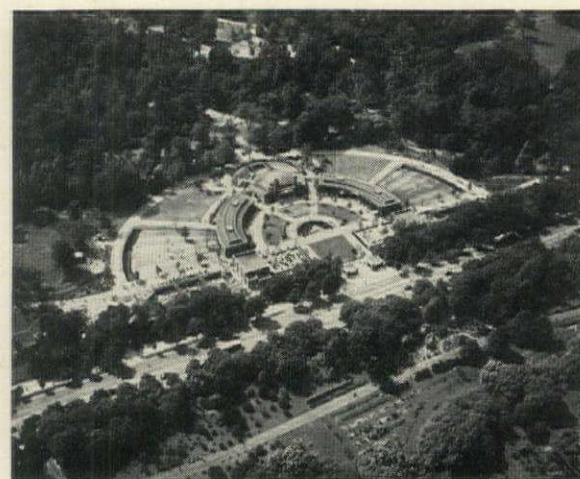
Lac Inferieur, Bois de Boulogne, developed by Haussmann's "garden-engineer" Alphand.



Central Park, West Drive, bicycle path and walk.



Kissena Park Lake, Queens County, N. Y.



Small modern Zoo, Prospect Park, Brooklyn, N. Y.



ference and could count on little support from the Emperor whose power declined proportionately as that of the Legislature increased. More Bonapartist than the Bonapartes, Haussmann could expect little co-operation in the future, and when the election returned an even stronger liberal Legislature and Ollivier was made head of the Council, Haussmann saw that it was time for him to ask to be relieved. He said, "The new ministers and I agreed on only one point: the impossibility of my taking my place in the Council in such company." Characteristically, he refused to have anything to do with the weakened Government of the liberal Empire, to take part for a single day in the new Government or to co-operate with it upon any ground.

Haussmann's genius was not made use of during the Franco-Prussian War, which he felt was the disaster that he had prophesied would inevitably follow the establishment of a "parliamentary empire." He retired for a time to his wife's villa in the south of France. Contrary to the rumors circulating in Paris, he had not availed himself of many opportunities he had had as Prefect of the Seine to enrich himself at the expense of the city and the taxpayers. In 1871 his situation had become so critical that he returned to Paris, and through his connections with the financial world was made a director of the *Crédit Mobilier* whose financial position he did much to improve.

1877 saw him once again entering the political field. In that year he successfully stood for deputy and was elected to

the hated Legislature. An ardent imperialist until the day he died, his talents were ill-suited to the parliamentary regime, and he did little to distinguish himself. Only one debate of any importance marked his presence in the Chamber. And that, fittingly enough, concerned his beloved Paris. The question arose as to whether the ruins of the Tuileries, gutted by fire during the bloody Commune, should be restored or torn down. Haussmann urged their preservation as an historic landmark, but he did not know how to address a republican assembly, and his scheme was defeated. Haussmann subsided.

The last years of his life were spent in preparing his *Mémoires*, the final proofs of which he was correcting the day before he died. He hoped these writings would help in forming a more just opinion of "men of conviction, initiative and firm resolution, who fear neither hard work, nor battle, nor unpopularity, in the accomplishment of a great work."

So much for the story of Baron Haussmann. What, you ask, are the lessons which the post-war planners should learn from it? Time and space permit only a summary, and if the deductions seem a trifle dogmatic, attribute it to the temper of one who has been through the mill and has come to some pretty definite conclusions about the execution of successful public works within reasonable costs, with the support of public opinion and without scandal.

First: Let it be said to Baron Haussmann's everlasting credit that he grasped the problem of step-by-step, large-scale city modernization, that he knew the close relationship be-

Place de la République. Haussmann designed this along rectangular lines in contrast to the conventional French "rond point."





tween wide thoroughfares and bridges, slum clearance, water, sewers and incidental utilities and public improvements, that he made Paris accessible and livable, that he respected the past but was no slave to it, and that he set so deep a seal upon this city that even post-war plans will simply be an elaboration of what he began. He practiced the neighborhood rehabilitation which is so prominent in the jargon of our modern planners and so far from their practices.

Second: It must be said that Baron Haussmann got too far ahead of the procession. He paid no attention to public opinion, he ignored parliamentary procedure, he flouted basic laws. No great program of municipal reconstruction can rest upon any other basis than that of informed majority public opinion, and the majority has to be substantial. Haussmann knew what the public ought to want, but he did not concern himself with educating public opinion and building up the support which would have allowed him to finish his work.

Third: Haussmann's financial methods were often bizarre and unsound. He did not comprehend the limits of public borrowing, the necessity of doing certain things on a pay-as-you-go basis, the importance of revenues, the difference between temporarily inflated and permanently increased values, and the comparative importance of substance and show.

Fourth: Haussmann did not balance properly the needs of all classes, and he tended to neglect the lower middle class and the poor.

Fifth: The theory of "productive expenses," that is, of encouraging private enterprise, the flow of capital, and increase in revenue by public works, is one which requires constant checking and scrutiny. Many things need to be done which don't "pay" in the ordinary sense of that overworked word, but those which are supposed to pay should be made to stand on their own feet without crutches.

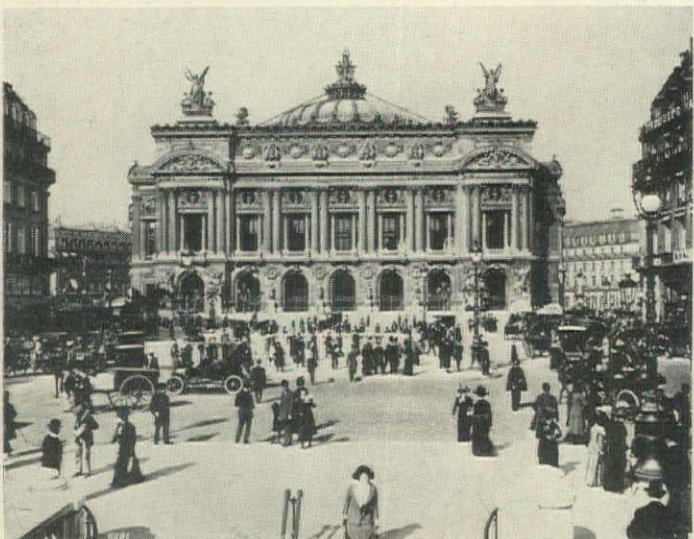
Sixth: Haussmann, probably through no fault of his own, was the victim of an outrageous system of condemnation and a dubious system of contract work. Excessive awards by the courts were further complicated by unsound methods of payment, and contractors had the public officials at their mercy.

Finally, it should be noted that, in spite of his eccentricities, Haussmann lasted seventeen years as head of the public works in Paris, and that this period was long enough to enable him to carry out a program which is the more astonishing as we realize how far he was in advance of his time, how great were the obstacles which he faced, and how boldly he faced them.

The Paris of Haussmann has had a charmed life. It survived almost unscathed the humiliation of 1870. Joffre and his taxicabs saved it in 1914, and as an open city it overawed Hitler's sightseeing goose-steppers in 1940. Its spirit for the moment is dead, but physically the old Baron would be at home in it today and could confidently predict its revival in the future.



Aerial view of the Opéra, the Place and Avenue de l'Opéra with diagonal streets developed by Haussmann.



Main facade of the Opera House facing the Place and Avenue de l'Opéra.



A wide promenade covers the East River Drive where it passes on two levels around Carl Schurz Park.



Belt Parkway in Queens County where it runs along the old Brooklyn aqueduct right-of-way.



# COMMUNITY RECREATION CENTER

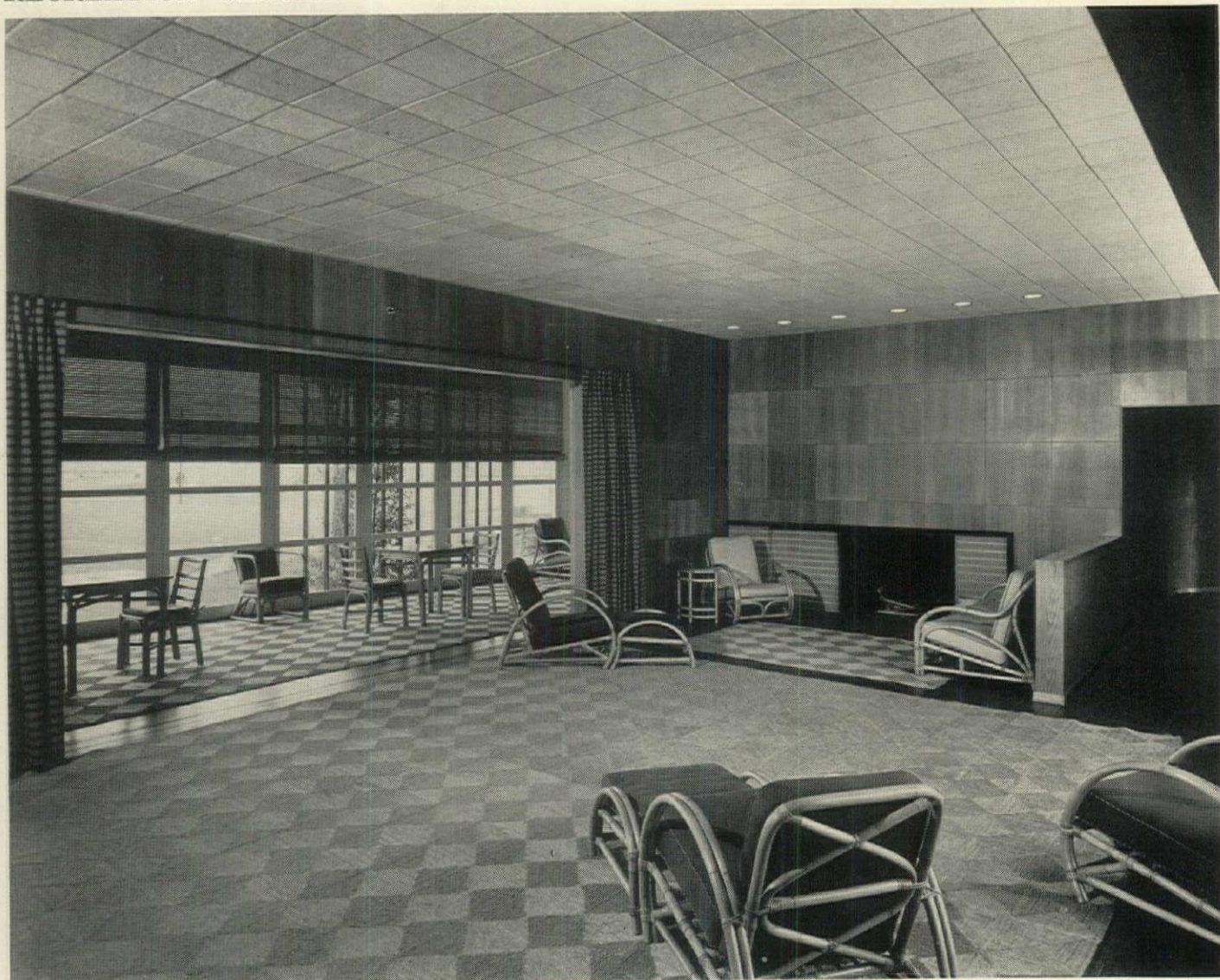
SEAFORD, DELAWARE

VICTORINE AND SAMUEL HOMSEY, ARCHITECTS

*Photos, Robert Damora*







VIEW 1

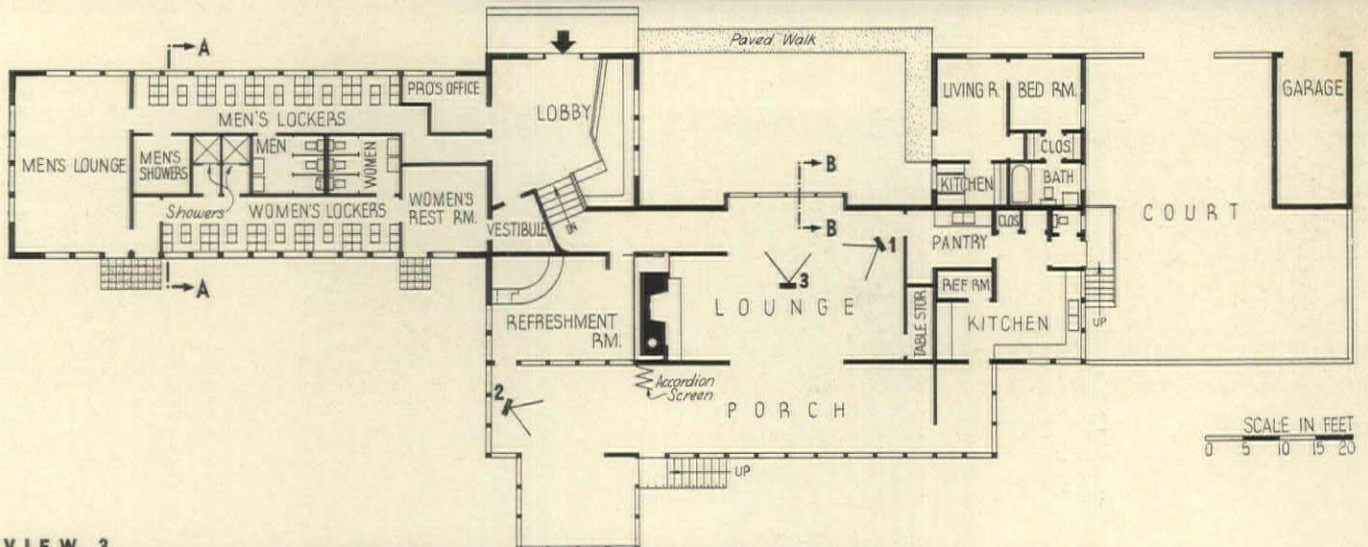
This recreation center was built by a large manufacturing company for its employees and their families, providing facilities for sports and entertainment which previously had been lacking in the community. The soundness of such ventures, from the viewpoint of public and management-labor relations, has long since been demonstrated by the experience of many companies. What is unusual here is that the idea has been realized in a distinguished and thoroughly appropriate building. As the plan on the facing page suggests, the program was a comparatively simple one. There is a lounge with an enclosed porch adjoining, a wing for lockers and showers, a kitchen and a refreshment room. The public spaces are



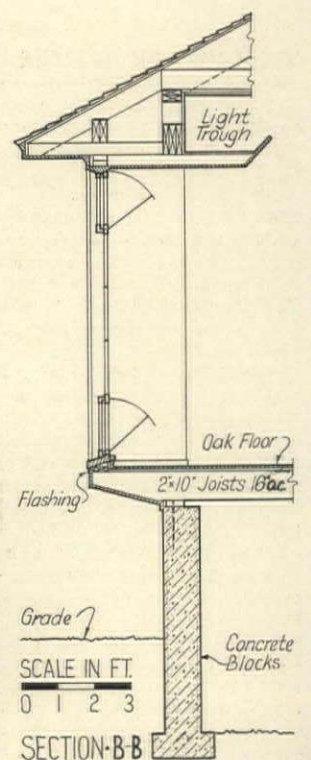
VIEW 2



sufficiently large for dances and dinners, with large glass areas giving a pleasant view over the golf course. Interiors are informal in character, uncluttered, and designed with a view to easy maintenance. Wall backgrounds are for the most part wood, either natural or painted, and the ceilings make use of both wood and acoustical materials. In keeping with the effect of simplicity aimed at, the most inconspicuous of lighting fixtures was selected for the lounge and porch. One of the most interesting features of the building appears on the following page, where a photograph and drawing show a simple extension of one of the roof slopes to provide a row of high windows and louvers which light and ventilate the interior showers and toilets.



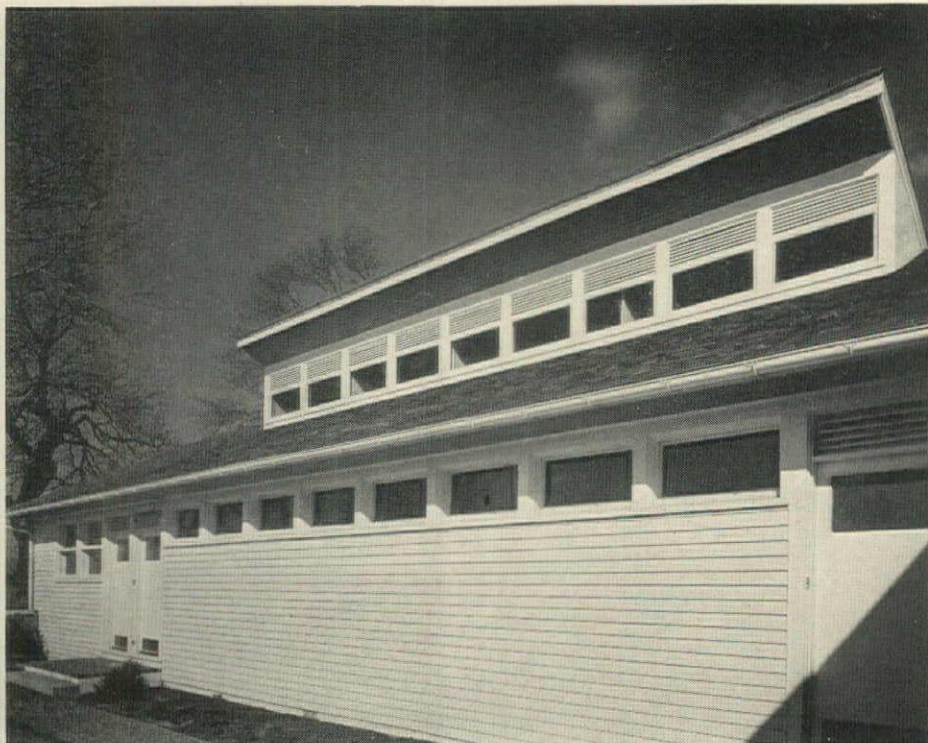
VIEW 3



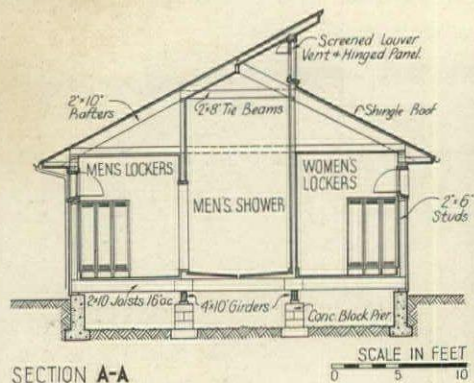




LOCKER ROOM



EXTERIOR



## CONSTRUCTION OUTLINE

**STRUCTURE:** Exterior walls—cedar clapboard, Celotex Corp. Vaporseal sheathing; inside—pine or oak plywood, U. S. Plywood Co. Floors—oak.

**ROOF:** Cedar shingles.

**INSULATION:** Vaporseal, Celotex Corp.

**WINDOWS:** Sash—projected wood and case-ment. Glass—double strength, quality A, Pennvernon, Pittsburgh Plate Glass Co.

**FLOOR COVERINGS:** Kitchen and pantry—linoleum, Armstrong Cork Co. Rugs—Rattan Mfg. Co.

**FURNITURE:** Rattan Mfg. Co.

**DOORS:** W. D. Crooks & Sons.

**HARDWARE:** P. & F. Corbin.

**PAINTS:** E. I. Du Pont De Nemours, Inc.  
**ELECTRICAL INSTALLATION:** Wiring system—BX and rigid conduit, Youngstown Sheet & Tube Co. Switches—Harvey Hubbell, Inc.

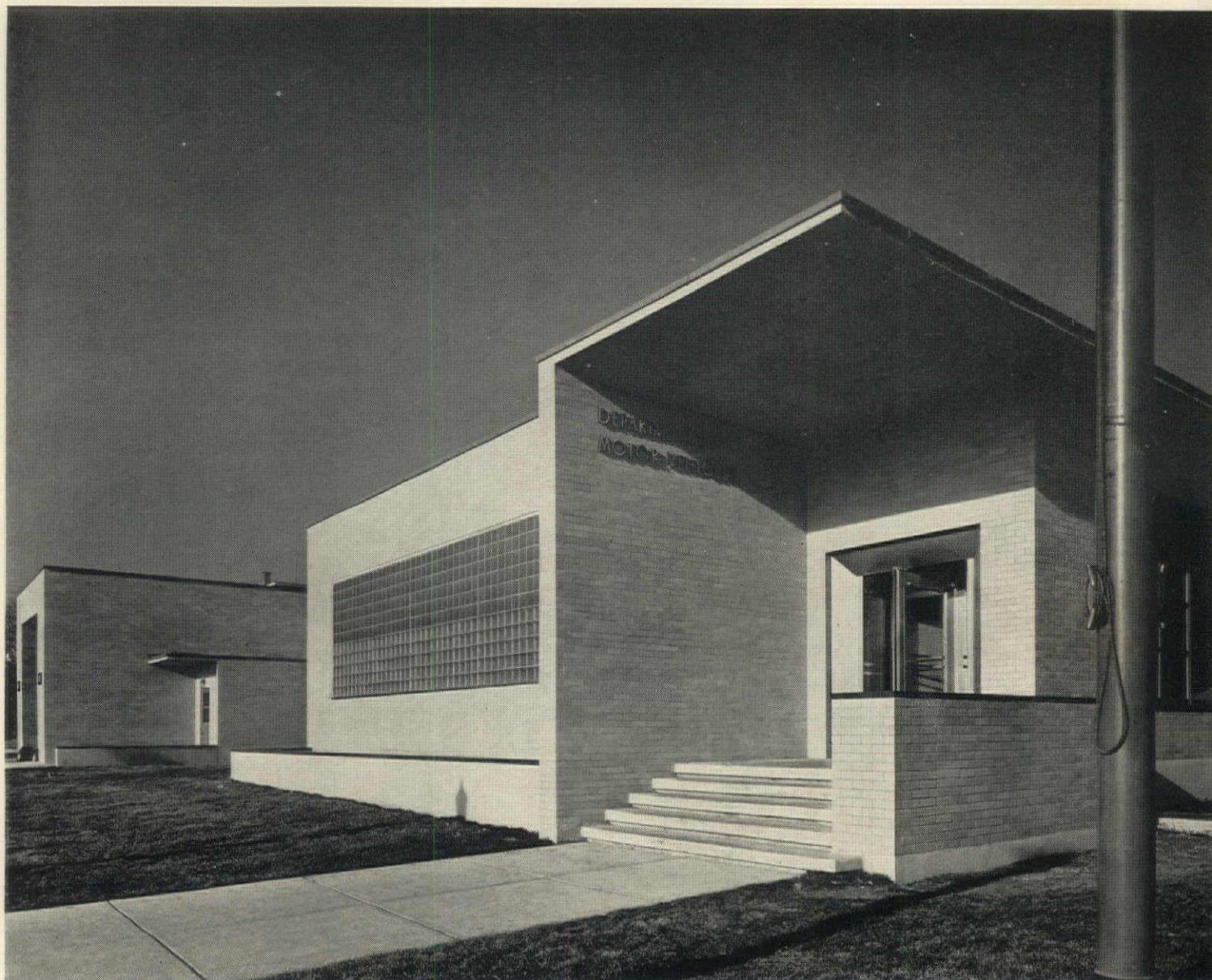
**PLUMBING:** Fixtures and soil pipes—Hajoca Corp. Hot and cold water pipes—copper, Mueller Brass Co. Kitchen sinks—Hajoca Corp. Cabinets—Kitchen Maid Corp. Refrigerators—Frigidaire Sales Corp. Range—Magic Chef, American Stove Co.

**HEATING:** Two-pipe hot water system—National Radiator Co. Thermostats—Minneapolis-Honeywell Regulator Co. Exhaust fans—Ilg Electric Ventilating Co.

KITCHEN







*Photos, Robert Damora*

**VICTORINE AND SAMUEL HOMSEY, ARCHITECTS**

**J. A. BADER & CO., GEN'L CONTRACTOR**

The practice of carrying on tests of automobiles was established by many State Highway Departments a number of years ago, but the construction of permanent stations for such tests is entirely new. To date, Delaware has put up three such centers, the largest of which is shown here. The building now has one testing lane, and there is room on the property for the creation of three additional lanes if and when these become necessary. The procedure, as far as testing is concerned, is fairly simple and is explained by the small photograph at the right. The car enters, is checked for lights, wheel alignment, brakes, etc., and drives out at the other end, a system quite similar to that used in the outdoor setups. For ease of maintenance the interior wall surfaces are finished in white tile. Lighting is both natural and artificial; there is a row of small skylights which extends the full length of the ceiling, and rectangular lenses, set flush, may be used for night or supplementary illumination. The exterior photograph above shows a very straightforward design, dignified and substantial in appearance, with materials carefully selected to simplify maintenance.

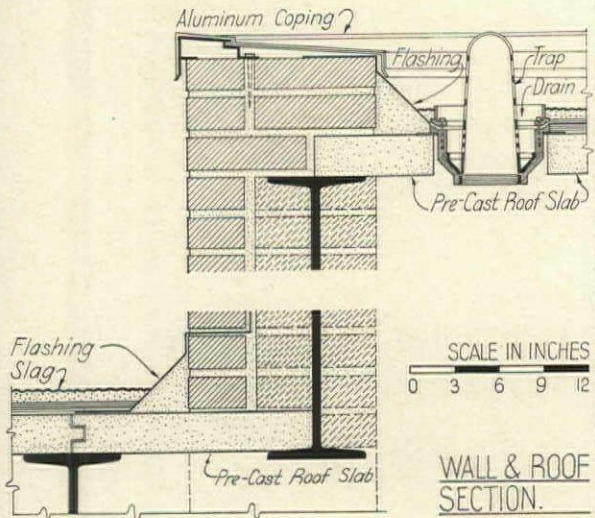




AUTOMOBILE TESTING STATION



An important part of the program called for the provision of public and office space, used in connection with the issuing of licenses and car registrations. As indicated by the plan of the first floor, this space consists of a lobby, a public room (shown below) with work spaces on both sides, and an office which is linked with both the public room and the inspection lane. The basement contains an examining room, storage space, lockers and air-conditioning equipment. Interiors of both offices and public spaces reflect the character of the exterior, showing the same dignified simplicity and an equally careful use of materials for low maintenance and initial cost.



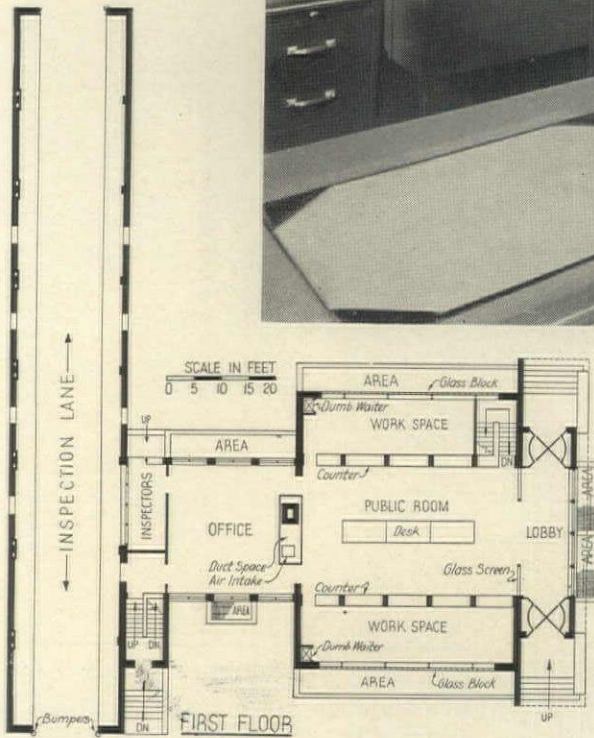
PUBLIC ROOM



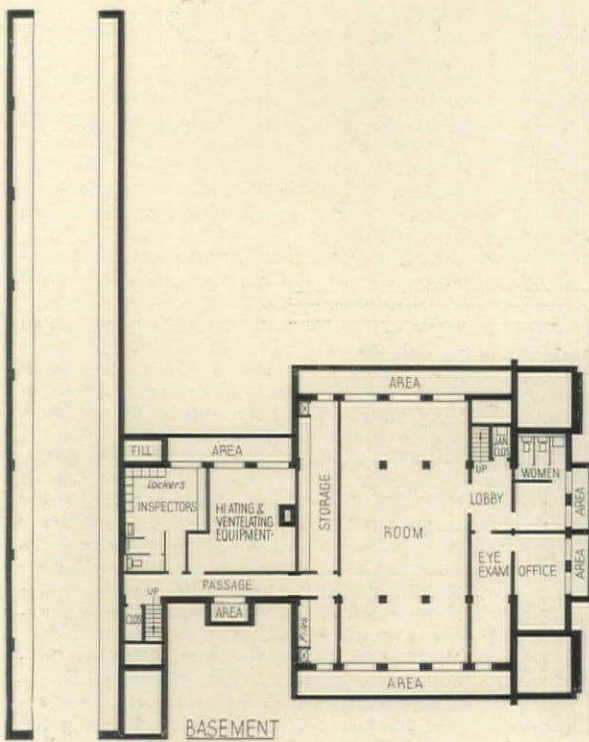




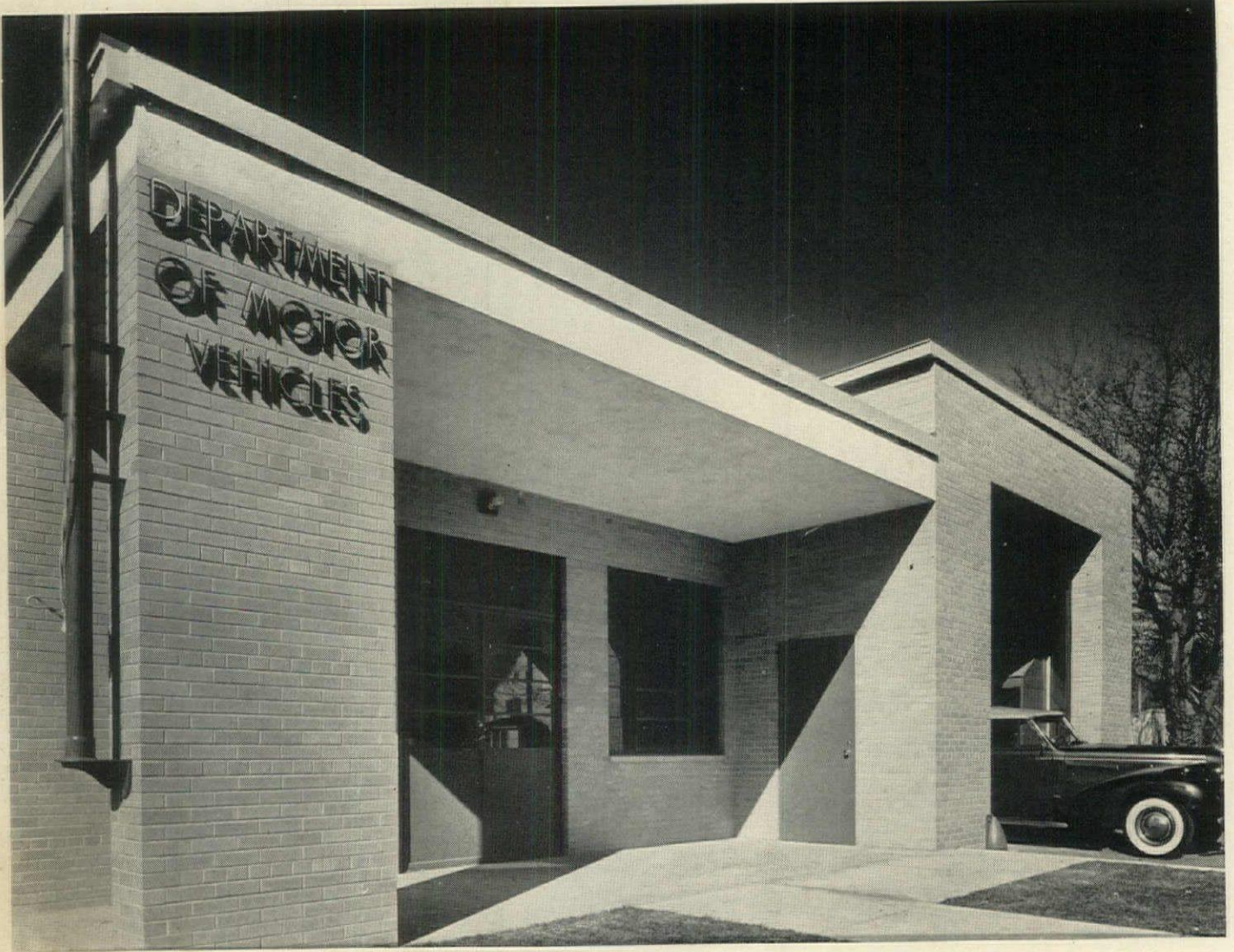
OFFICE



COUNTER





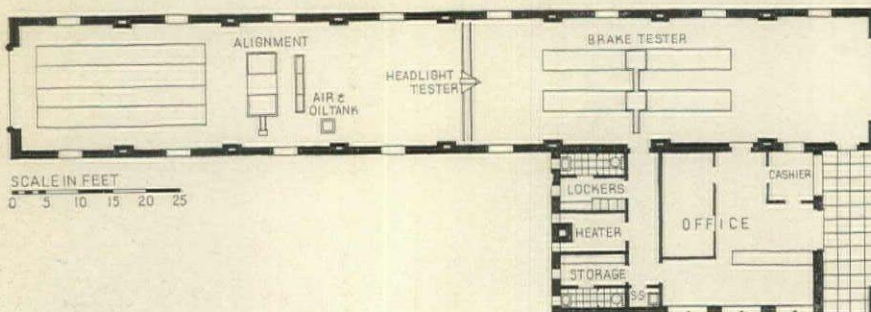


## VICTORINE AND SAMUEL HOMSEY, ARCHITECTS

This building, located in the town of Dover, shows an application of the planning principles followed in the Wilmington station to the requirements of a smaller community. The inspection lane is similar to that used in the Wilmington building, with equipment for the basic testing operations disposed in the manner shown below. Public and office spaces are naturally smaller. No expansion was provided for in the design, as it is the policy of the Department of Motor Vehicles to increase the number of these units until the State's requirements have been taken care of. This very intelligent program of dispersion should prove most efficient, as it will reduce congestion and unnecessary travel, while providing an inexpensive system of state-wide control through the use of small stations with minimum staffs.

## CONSTRUCTION OUTLINE

**FOUNDATIONS:** Reinforced concrete. Waterproofing—Master Builders Co.  
**STRUCTURE:** Exterior walls—Graystone, Belden Brick Co., common brick backing; inside—studs, lath, Bostwick Steel Lath Co. and U. S. Gypsum Co. plaster. Floors—reinforced concrete slab. Ceilings—Sabinite plaster, U. S. Gypsum Co.  
**ROOF:** Specification roofing, Barrett Co.  
**WINDOWS:** Sash—steel casement, Hope's Windows, Inc. Glass—Pittsburgh Plate Glass Co. and Mississippi Glass Co. Glass Blocks—Insulux, Owens-Illinois Glass Co.  
**FLOOR COVERINGS:** Public spaces—terrazzo. Work spaces—linoleum, Armstrong Cork Co.  
**WALL COVERINGS:** Public space—Masonite covered Presdwood, Masonite Corp.; some ceramic glazed tile.  
**WOOD AND METAL TRIM:** Trim and doors—steel, Aetna Steel Products Corp. Wood doors—W. D. Crooks & Sons. Revolving doors—International Co. Garage doors—Kinneair Mfg. Co. Lockers—steel, Berger Mfg. Div., Republic Steel Corp.  
**PAINTS:** E. I. Du Pont De Nemours, Inc.  
**DUMBWAITERS:** Energy Elevator Co.  
**ELECTRICAL INSTALLATION:** Wiring system—BX and conduit. Switches—Harvey Hubbell, Inc. Clock—Warren Telechron Co.  
**PLUMBING:** Fixtures and drainage pipes—Hajoca Corp. Hot and cold water pipes—Mueller Brass Co. Toilet partitions—Sany-metal Products Co.  
**HEATING:** Hot air system, filtering, General Electric Co. Grilles—Tuttle & Bailey. Thermostats, boilers and water heater—General Electric Co.





# MODERN OFFICE

R. DOULTON STOTT, INDUSTRIAL DESIGNER

NEW YORK, N. Y.

VESTIBULE

*Photos, F. S. Lincoln*





## MODERN OFFICE

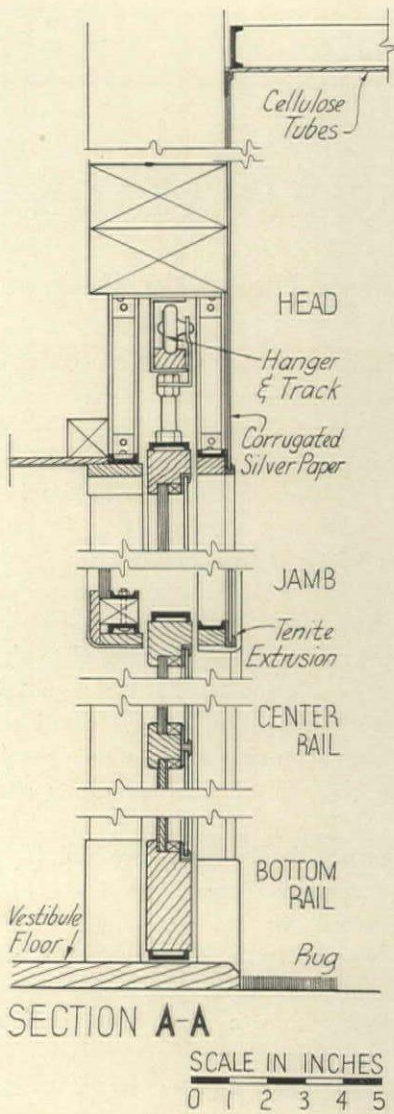
This office for an industrial designer employs modern materials and a flexible plan to achieve maximum effect in minimum space. A vestibule-reception room is divided from the office space by a curving, translucent plastic partition, chosen to admit borrowed light. The reception-room ceiling is formed from suspended plastic panels of "egg crate" construction, covered with parchment paper and illuminated from behind. The office space is divided into two parts (each with its own sliding door to the reception room) by a Modernfold partition, and has a hung ceiling of plastic

tubes between furring channels designed to conceal the irregular beam ceiling above, which is painted dark blue. Curving cabinet work, surrounding the back of the reception desk, projects as a shelf in the main office. Much of the balance of the furniture was specially designed for the project, as was the hardware, which is carried out in translucent plastic. The color scheme is generally blue and gray, with orange accents and some green. Reception-room floor is random-width pegged oak, other floors are covered with carpet in various colors.

VIEW 1



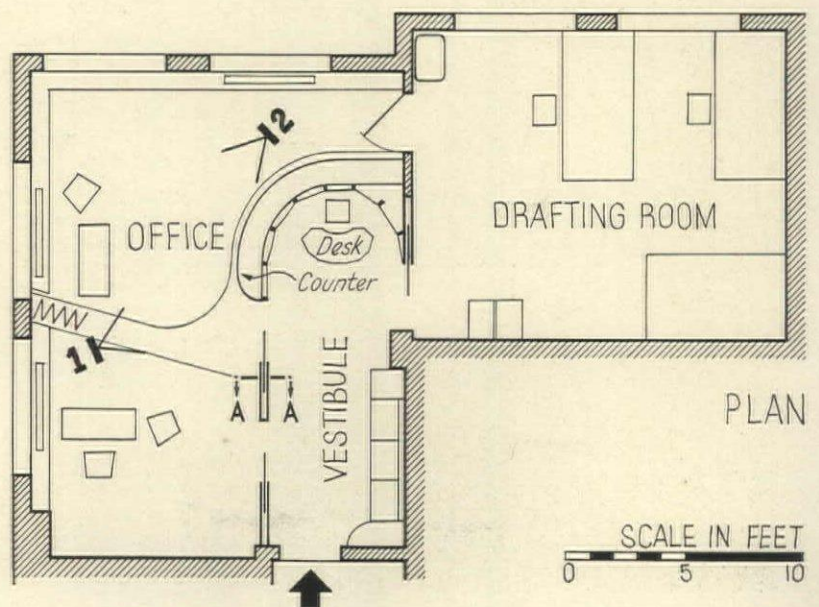




VIEW 2

### FURNISHINGS AND EQUIPMENT

DOOR—Overhead Door Corp. GLASS PANELS—Harriton Carved Glass Co. FLOOR COVERINGS—Carpet, Bigelow-Sanford Carpet Co.; linoleum, Armstrong Cork Co. LIGHTING—disks, Plaskon Co., Inc. HARDWARE—J. R. Schoemer Co. LEATHER DOOR PULLS—Gleb Bourianoff. CURTAINS—R. H. Macy & Co., printing, Donelda Fazakas. CHAIRS—John Wanamaker. PAINTING—Colonial Art Decorators, Inc. OTHER MATERIALS: Insurok, The Richardson Co. Fabricona, H. B. Wiggin's Sons Co. Tenite, Tennessee Eastman, distributed by Julius Blum & Co., Inc. Lamicoid, Mica Insulator Co. Fiber paper, The Stevens-Nelson Paper Corp. Lucite, E. I. Du Pont De Nemours & Co. Homespun, Johnson & Faulkner, Inc. Upholstery, Morris Rand. Plywood, U. S. Plywood Co. Regenerated cellulose tubes, Allied Display Materials, Inc.





# WAR HOUSING

## A WARTIME APPROACH TO PREFABRICATION

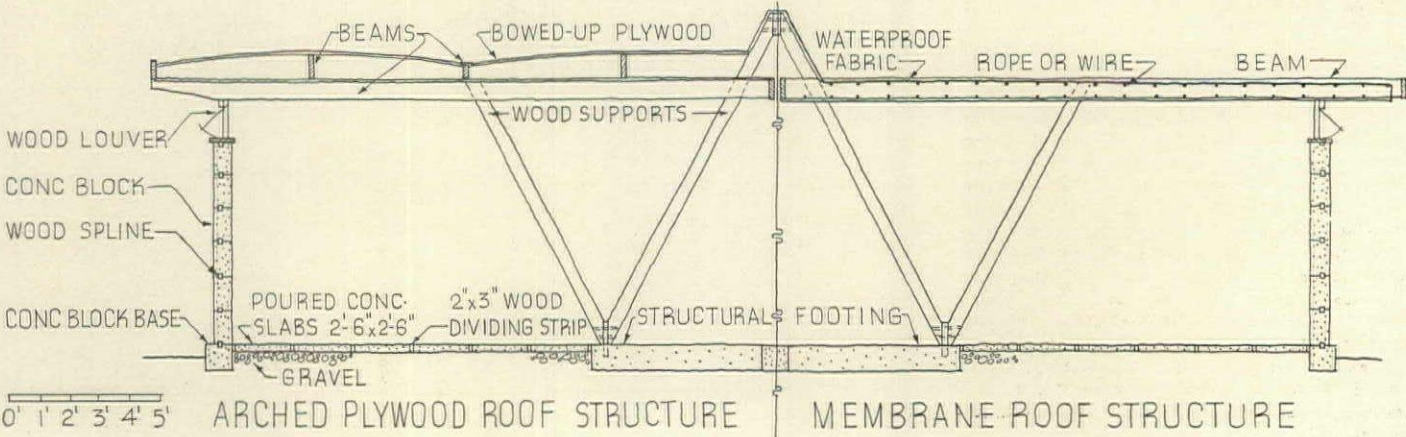
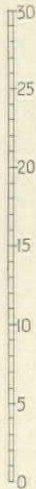
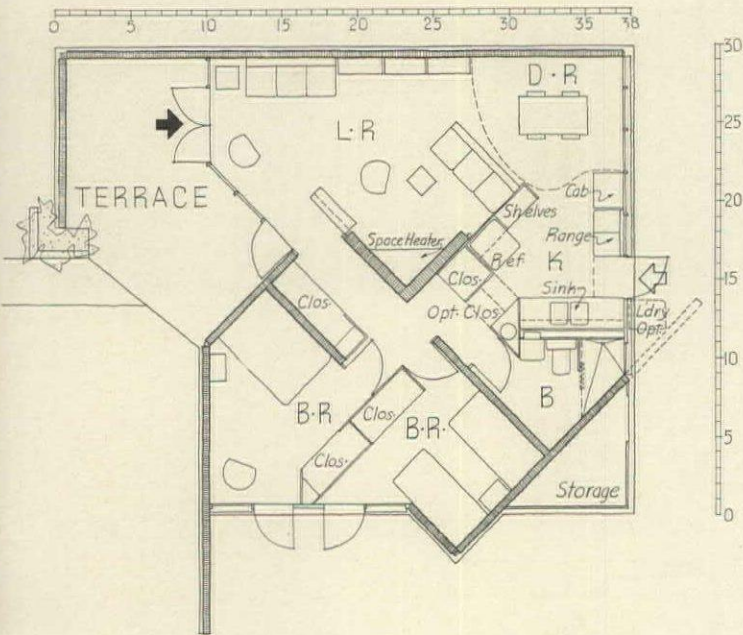
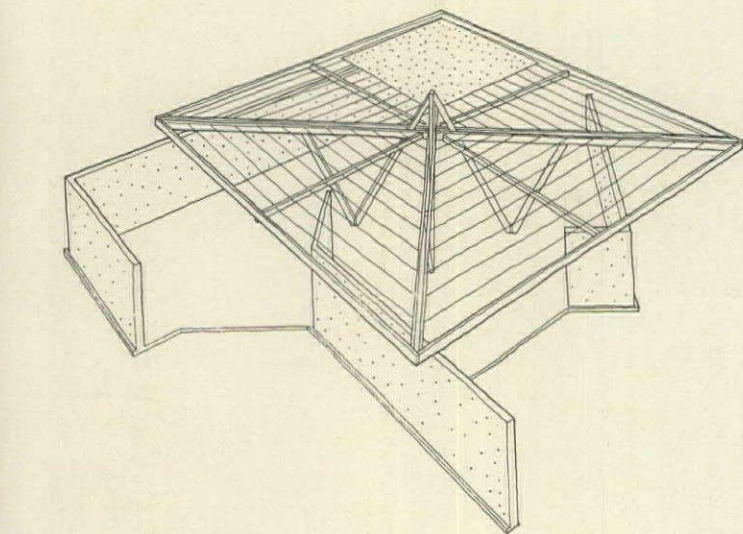
Joseph Allen Stein, Designer

This project, as yet unbuilt, is reproduced here because it embodies an approach to housing design whose advantages, from the viewpoint of economy and flexibility, appear to be considerable. The basic feature of all the schemes shown is the system of interior roof supports, used in combination with a cantilevered roof, resulting in a reduction of footing areas and a high degree of flexibility in the placing of interior and exterior walls. The designs presented are also of interest because they have been produced with an eye to getting around the growing material shortages and to the speeding up of fabrication and erection time. It will be noted that the houses are not presented as hard and fast solutions, but rather as a series of alternative suggestions whose possibilities may be worth exploring. Mr. Stein's comments and descriptions follow:

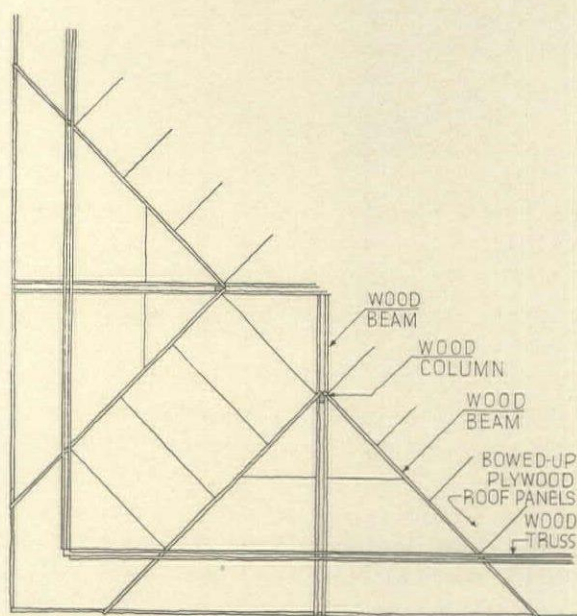
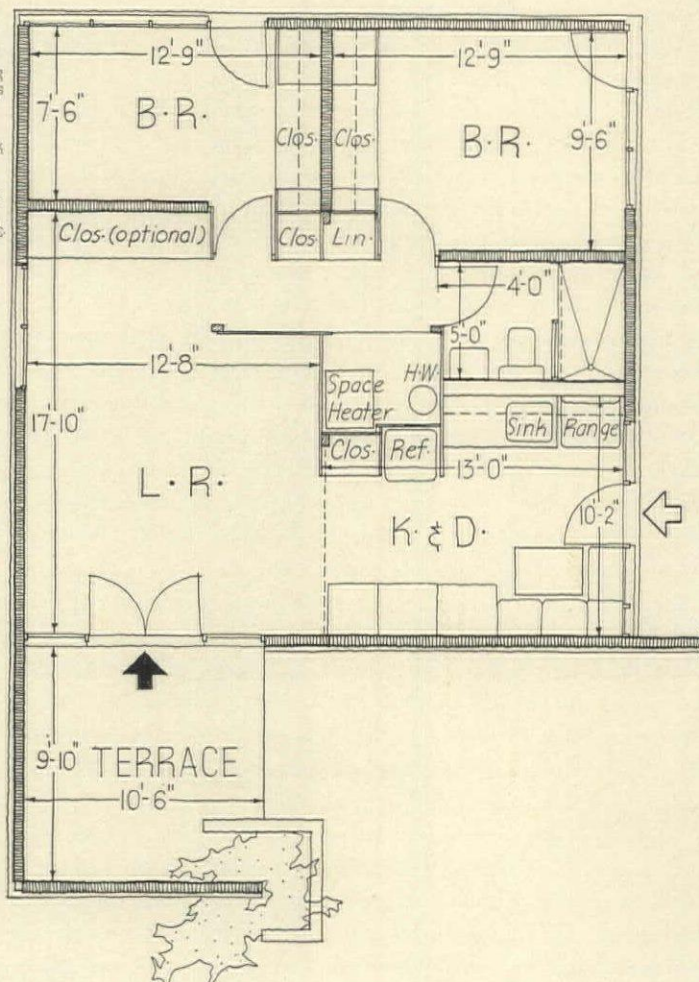
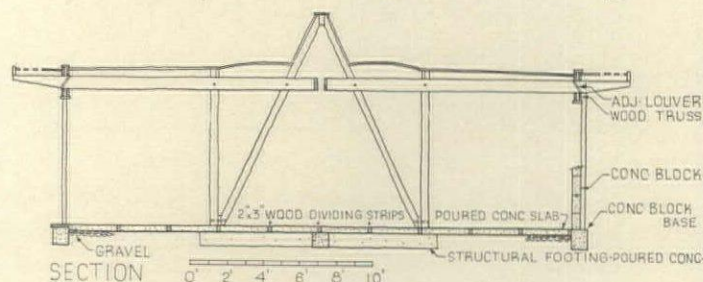
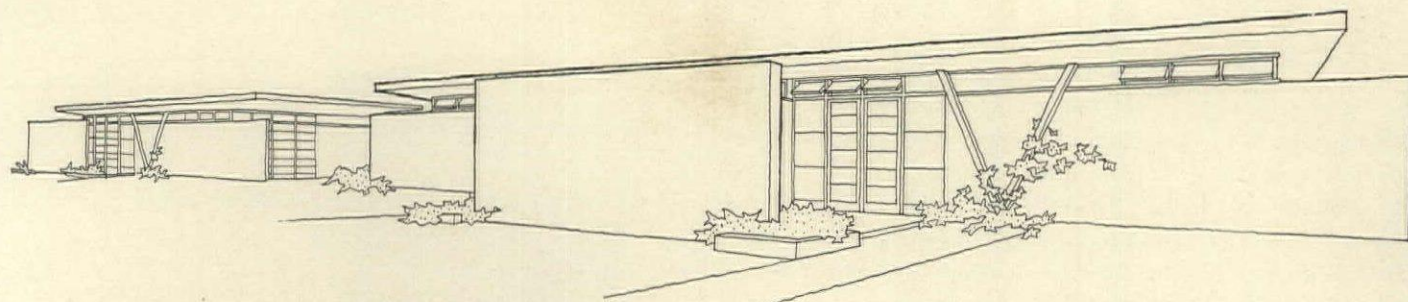
"Until a new housing approach is developed, we will have the dilemma of balancing a pound of steel against a pound of rubber, and deciding which we can spare most easily from the war machine—when the truth of the matter is, we can spare neither.

"New housing methods that eliminate steel, other critical materials or labor, mean the elimination of not only heavy steel items, such as reinforcing bars, anchors, etc., but also such minor items as bolts, nails and hardware. They also mean a drastic curtailment of the amount of metal in furnaces, plumbing fixtures and pipes. Furthermore, these new methods must take a minimum of skilled labor which might be better used in direct war production.

"Briefly, safe, convenient homes at a cost of \$2,000 are called for, homes providing resistance to fire, bombing and special regional factors such as earthquakes, planned in groups to minimize raid vulnerability and to make use, wherever possible, of existing utilities. The low-cost figure is important, because it means that more units can be constructed; it also means that a larger percentage of workers will be able to buy them after the war. With a reduced construction cost, it also becomes economically possible to provide sufficient land for a more open type of planning to further minimize







1/2 ROOF PLAN

the danger of fire and bombing. With full war production schedules of three shifts, seven days a week, it is necessary to provide war workers with housing that enables some members of the family to sleep, while others are doing housework, playing, etc. Otherwise the efficiency of the worker will be lowered by delayed and interrupted sleep, due to the noise of normal daytime household activities. Since women are also going into war work in increasing numbers, any program for new housing must also attempt to reduce housework to a minimum.

"An examination of housing going up today reveals that many of these needs are not recognized. It also reveals irrational, expensive hangovers of past ways of thought and technique. One of the most conspicuous of these hangovers is the failure of the present use of prefabrication techniques to evolve a characteristic form that will realize the large economies and increase in livability inherent in the new conditions and techniques. The root of the failure of prefabrication to solve the housing problem lies in the fact that prefabrication has only rationalized traditional work-processes and the forms resulting therefrom, when the reason for

existence of these forms had ceased to exist at the moment of the introduction of prefabrication.

"In the two plans shown here, the designer has endeavored to exploit fully the new techniques of prefabrication, using only materials that can be obtained readily. Both plans fill most of the previously mentioned needs. The plan above is designed on the basis of standard defense house plan arrangement, while the scheme on the opposite page demonstrates a freer use of space which produces important living advantages in the way of increased privacy and wider use-possibilities. The different details and systems of roofing explained below are interchangeable between the two designs. "Both schemes use a resilient frame in place of traditional pier and lintel construction. It is designed to use a great deal less material than any conventional framing system, and to exploit fully the use of production methods. By the concentration of supports it is possible to use continuous footings of minimal length without steel reinforcing and to employ the cantilever principle of roof framing with a saving of material and labor. The triangular system of framing means that the pre-cut and drilled members will be perfectly aligned when

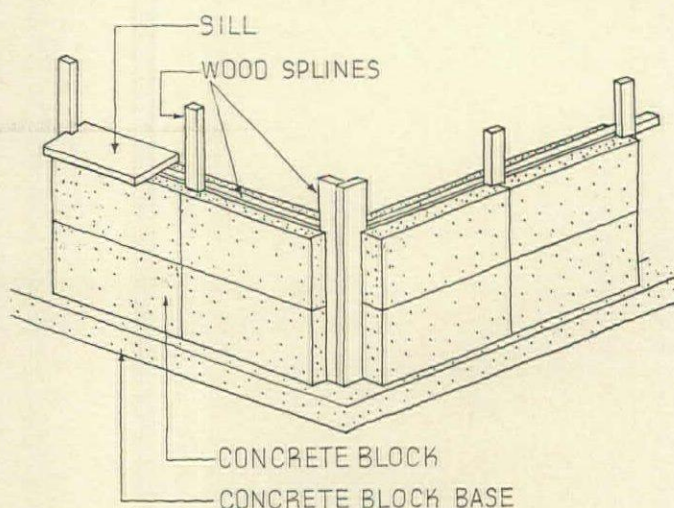
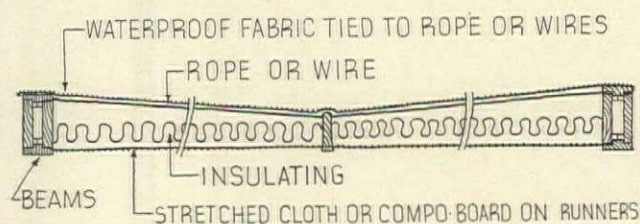
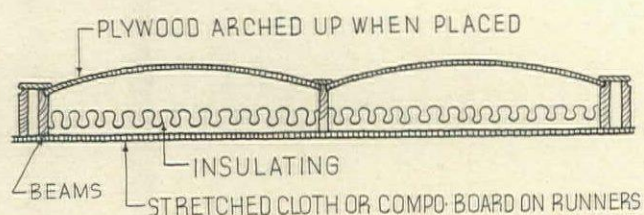


## A WARTIME APPROACH TO PREFABRICATION

dowels are inserted into the holes. These members are designed to transfer loads by direct bearing, and the hardwood dowels offer a satisfactory substitute for metal. Should the structure have to be taken down, the dowels could easily be removed by drilling or sawing. This type of concentrated framing can be securely tied together, giving increased resistance to lateral stresses due to either concussion from bombing or earthquake. The concentration of structural footings minimizes earth movement relative to the supports, lessening earthquake hazards. Finally, this method fully develops the strength of each member, instead of having many structural members which merely provide nailing surfaces for sheathing. "Two methods for constructing strong, light roofs are shown. Light roofs are not only more economical, but present less danger in the event of bombing. Both roofs, shown here in section, are designed to afford a high degree of resistance to suddenly applied loads, such as falling debris. In one instance this is accomplished by a net of ropes over which fabric is laid, then tied, and impregnated with waterproofing compound. In the other instance this is accomplished by arching standard sheets of plywood. Both methods eliminate rafters and joists with their attendant weight and cost. The form of these roofs is such that a layer of fireproofing can readily be added. Massive walls, carried to a height of six feet eight inches, are recommended where bomb resistance is a factor. The materials are cheap, easy to obtain, and they utilize a trade not needed for war production. Since the walls do not support the roof, no reinforcing is necessary. The drawing at the right shows a system of demountable construction, using lightweight concrete blocks and wood splines. With the use of walls, of stone, brick, rammed earth, etc., a dwelling can be made splinterproof by means of sandbags or earth piled against the walls.

"A simple concrete floor, made without steel reinforcing, can be built, where soil conditions permit, by the use of a grid of wood divider strips with the concrete poured in between. The slabs formed in this way could readily be salvaged and reused. Where soil conditions are not favorable, it will be necessary to use the more expensive wood floor.

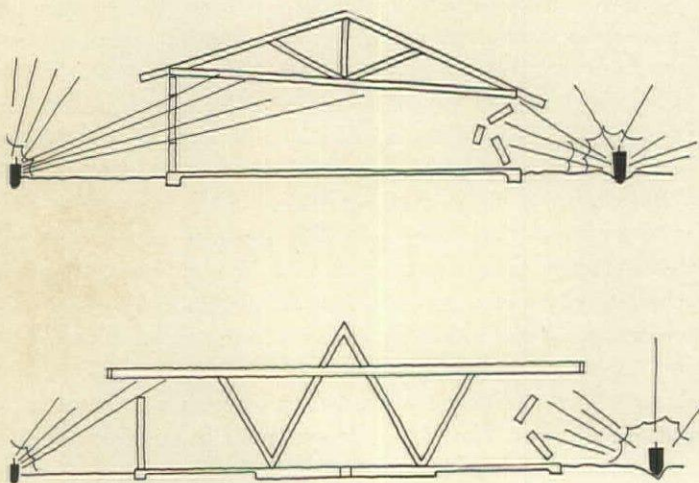
"Between the top of the wall and the eight-foot ceiling is a continuous space, running horizontally around the house, which can be used for light, ventilation or both. Screens, louvers, glazed sash, fabric and celloglass are some of the



materials which might be employed for the openings.

"Heating would be provided by a space heater in one scheme and by a centrally located warm-air fireplace in the other. Economy in plumbing is afforded by the concentration of fixtures. Should glass be developed for pipes and fixtures it might be possible to eliminate by far the larger part of metal now needed.

"It is believed that housing along the lines suggested would be less costly than the present demountables, far easier on critical materials and less wasteful of labor."



The sketches at the left offer a comparison between conventional wood frame construction and the method outlined above. In the conventional house there is danger of collapse if a wall should be blown out, and increased danger from splinters from flying glass. The lower drawing suggests that any wall might be blown out without impairing the strength of the structure, while the high windows would reduce the danger from shattered glass.



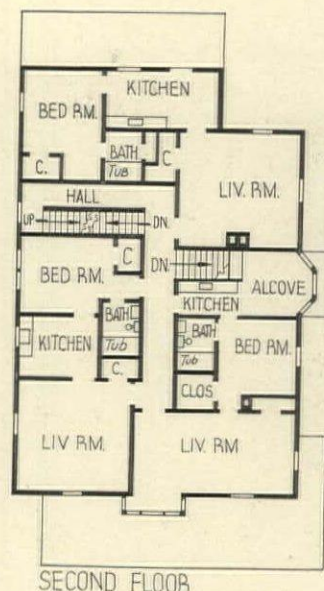
## REMODELING FOR WAR HOUSING



Weber & Harrison, Inc.

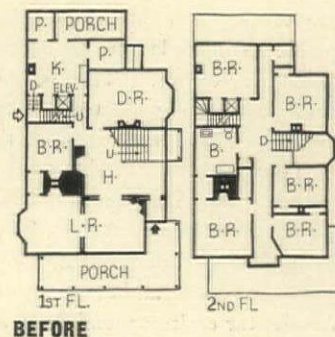


AFTER



### FEDERAL SAVINGS & LOAN ASSOCIATION SPRINGFIELD, OHIO

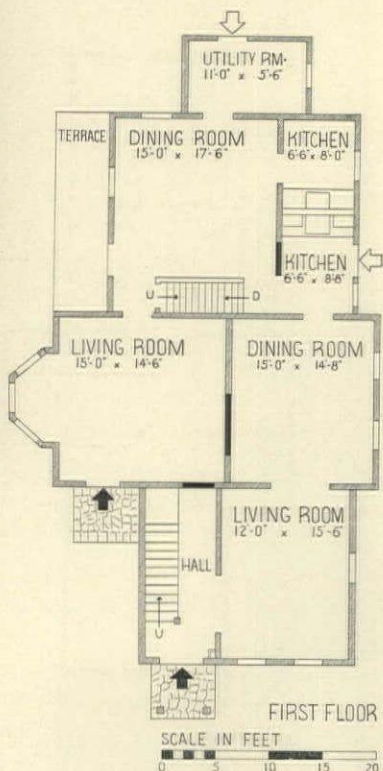
This large, single-family house was altered to accommodate six families in five three-room and one three-and-one-half-room apartments, at a cost of \$4,500. The original cost of the building was \$7,000, making the total investment \$11,500. Average rental is \$40 per family, total income \$241.50 per month. Expenses of \$466 per year leave a comfortable margin which represents a 21 per cent return on the investment.



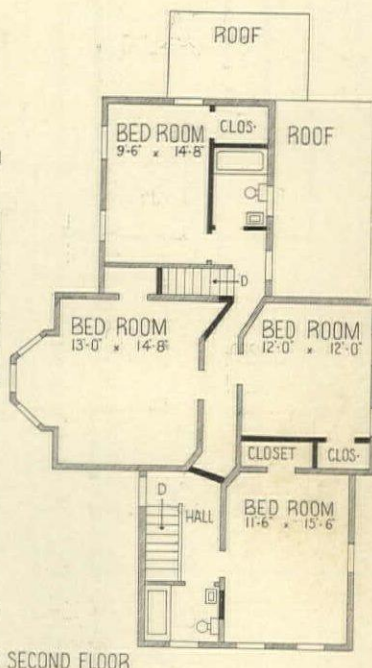
BEFORE



### FIRST FEDERAL SAVINGS & LOAN ASSOCIATION AKRON, OHIO



FIRST FLOOR



SECOND FLOOR

At a cost of only \$1,500, this 50-year-old house was ingeniously divided into two duplex apartments of five rooms each, with virtually no structural alterations other than the installation of additional kitchen equipment and a second bathroom. The original "front" stairway serves one apartment, which is entered through the front hall, while the second is served by the old "back" or service stair and entered by a new doorway to the living room in an L at the side. Poché on plans (right) shows the small amount of new partitioning that was required by the scheme.

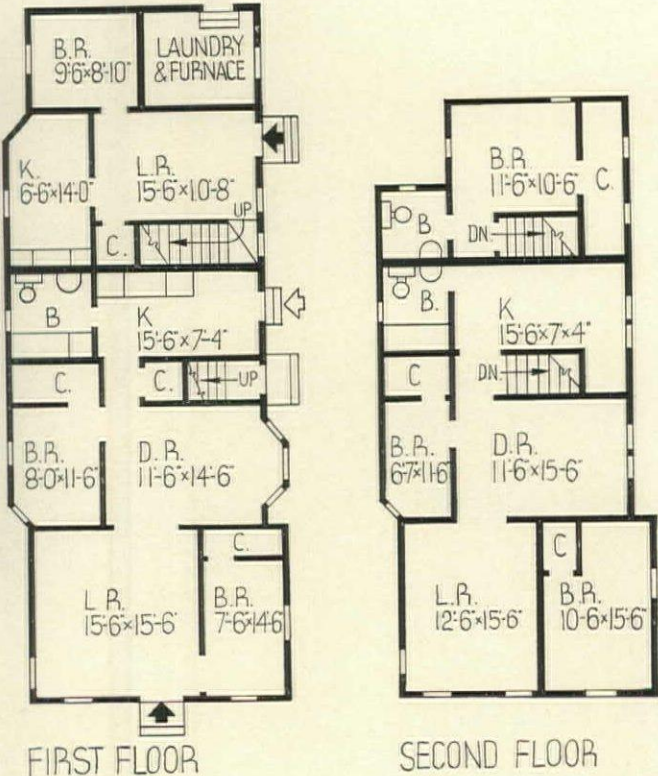


REMODELING FOR WAR HOUSING

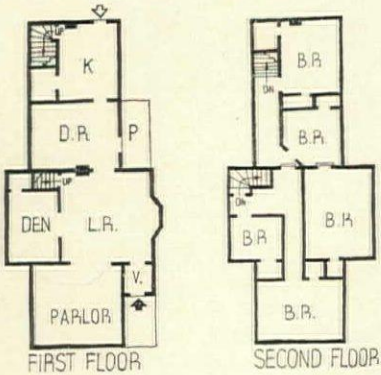
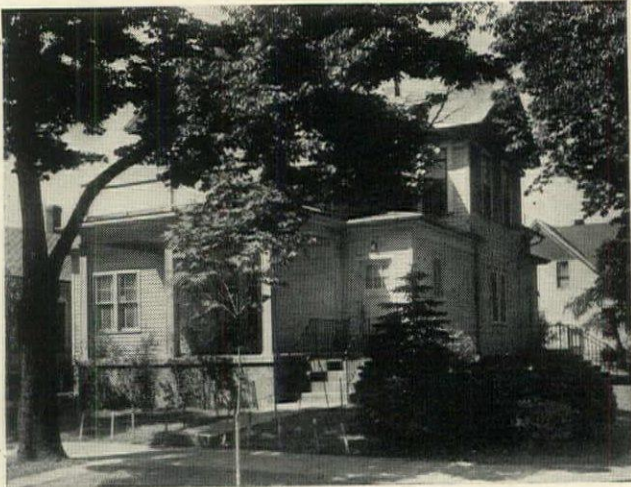
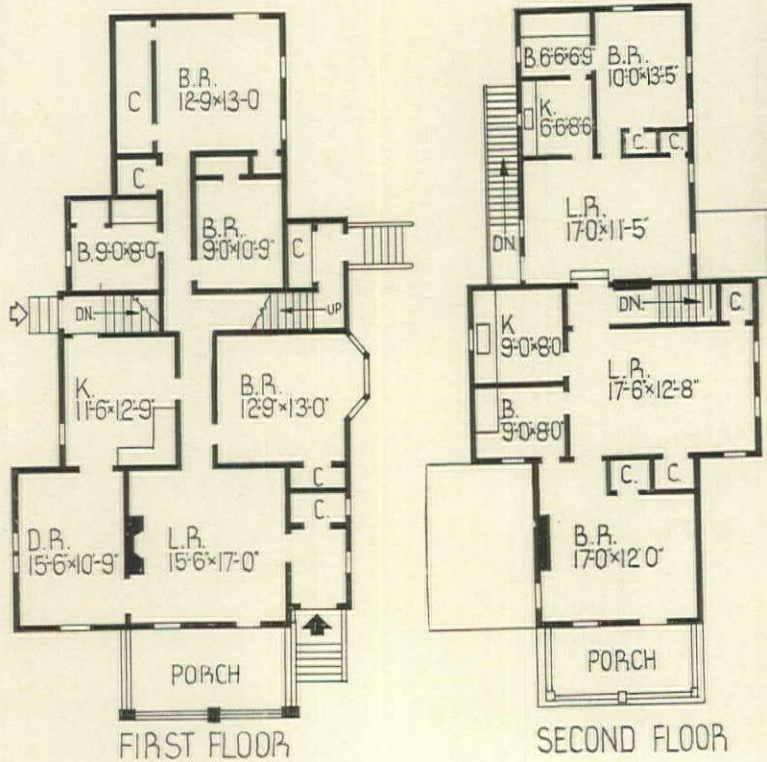


Photos, Mound

Both of the houses shown on this page were remodeled so as to provide accommodations for additional war workers in a defense production center. The old-fashioned, single-family house shown above was converted into three apartments: two five-room units, one above the other, at the front of the house, and an ingenious four-room duplex on two levels at the back. The back apartment, an addition to the original building, brought the cost of alterations to \$7,800. The house shown below was also converted into three apartments, in this case with the addition of only one room, and at a cost of \$5,150. A six-room unit now occupies the entire ground floor, with two three-room apartments above.



2 REMODELED HOUSES  
THE PEOPLES LOAN & SAVINGS CO.  
SANDUSKY, OHIO



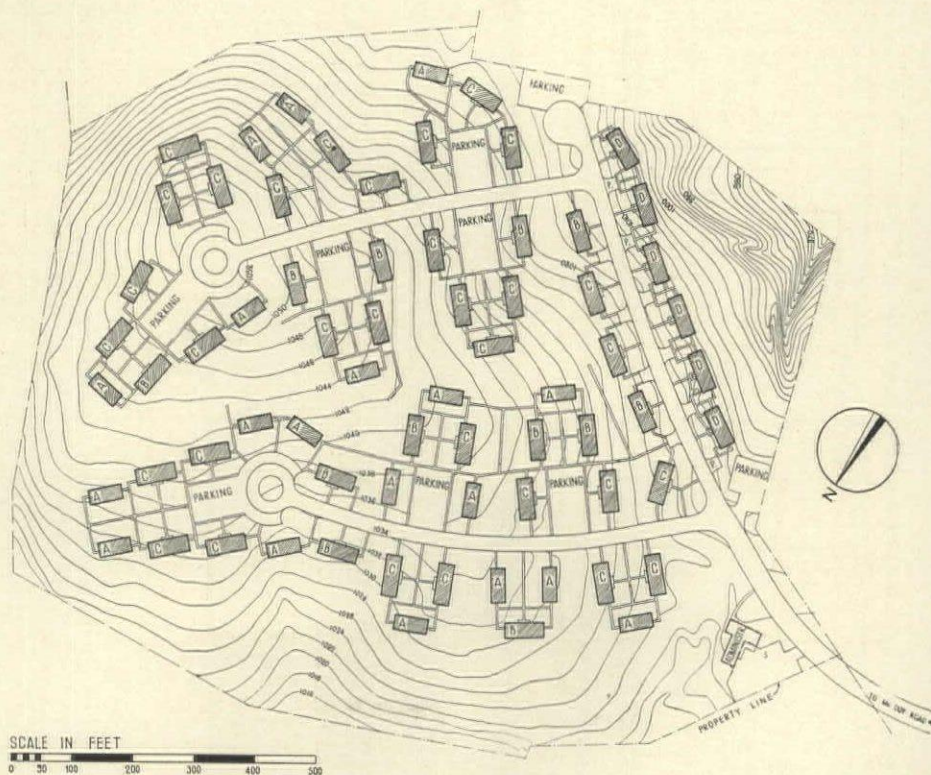




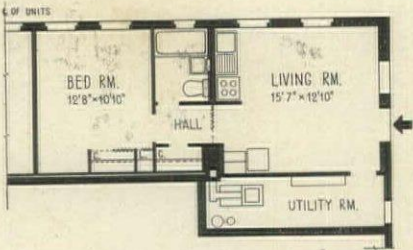
Photos, Luke Swank

MELLON-STUART COMPANY,  
GENERAL CONTRACTOR

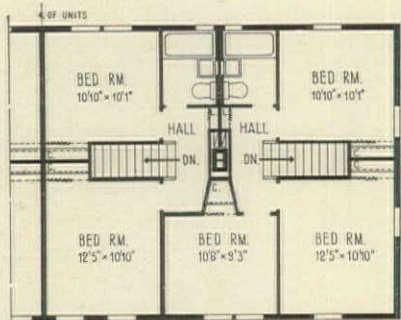
Pittsburgh's war housing need and hilly terrain have combined to produce some of the most interesting projects in the country. In this instance the result has been a really excellent site plan—a simple, economical and informal arrangement of the streets and buildings carefully adjusted to the contours and worked out to make the most of views in all directions—and the development of unit plans suited to various grade conditions. A feature of the site plan is the provision of adequate turning circles at the ends of the dead-end streets, in place of the usual cramped spaces which require so much backing and filling. Buildings are brick and frame with cement-asbestos siding, one, two and three stories in height. All are four units long. Half floors in the hillside buildings are used for one-bedroom efficiency apartments; the balance of the apartments are one-story, two-bedroom flats (type A) and two-story, two- and three-bedroom row houses (types B, C and D). Row houses which are a story out of the ground on one side of the living floor are provided with cantilevered balconies.



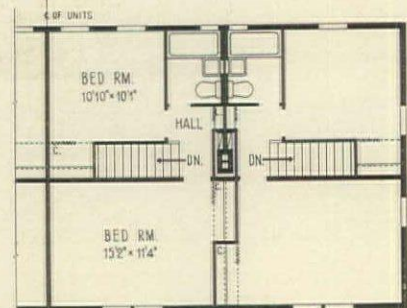




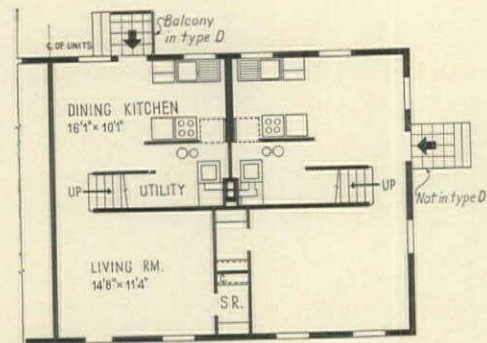
BASEMENT FLOOR TYPE D



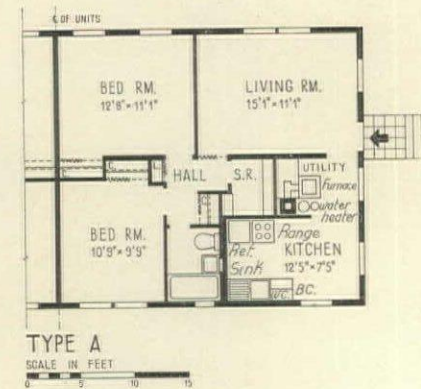
SECOND FLOOR TYPE C



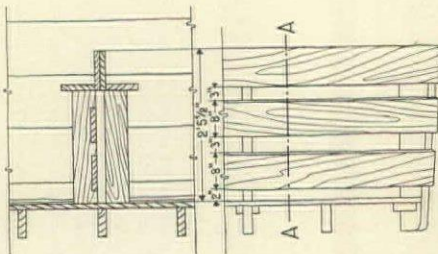
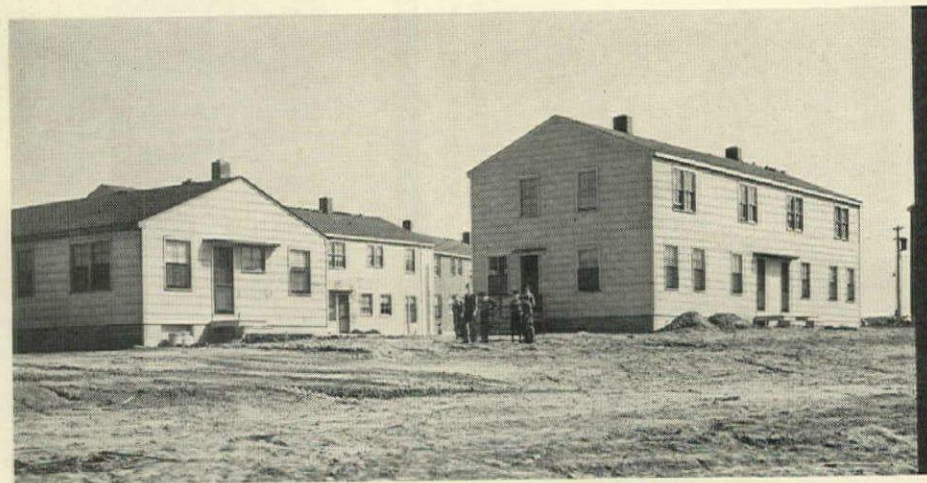
SECOND FLOOR TYPES B & D



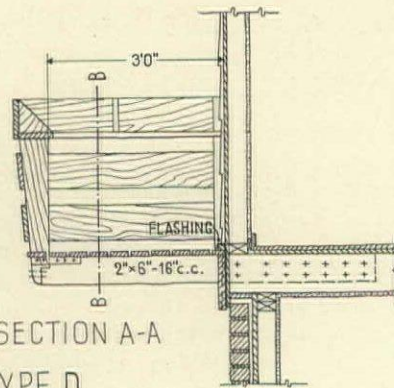
FIRST FLOOR TYPES B, C, & D



TYPE A  
SCALE IN FEET

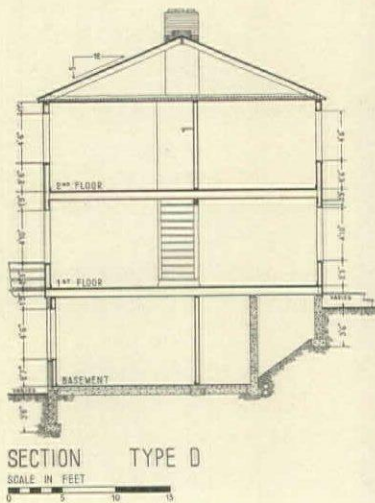


SECTION B-B ELEVATION



SECTION A-A

DETAIL OF SECOND FLOOR PORCH-TYPE D



SECTION TYPE D  
SCALE IN FEET

CONSTRUCTION OUTLINE

FOUNDATION: Concrete footings, concrete block—General Cement Products Co.  
STRUCTURE: Asbestos siding—Keasbey & Mattison Co.  
WINDOWS: Glass and glazing—Pittsburgh Plate Glass Co.  
HARDWARE: Lockwood Hardware Co.  
KITCHEN EQUIPMENT: Sink—Standard Sanitary Mfg. Co.; cabinets—Kitchen Maid Corp.  
BATHROOM EQUIPMENT: Cabinets—Philip Carey Co.  
PLUMBING: Fixtures—American Radiator-Standard Sanitary Corp.  
HEATING: Furnace—Surface Combustion Corp.; warm air registers—Register & Grille Mfg. Co.





**SEEING** is as much a matter of the color of surroundings as it is a matter of good illumination, especially in industrial plants where seeing tasks are much more complex than the simple discrimination of black print on white paper. In the plant above, workmen are better able to see their work because of the light color of the bench tops, but unfortunately less able to see work at the dark-colored machines.

## COLOR FOR PRODUCTION—an analysis of the part of paint and other pigments in providing a better seeing environment in industrial buildings, by Faber Birren.\*

Most lighting data are concerned solely with proper levels of illumination, but light is by no means the only factor which controls seeing. A lighting prescription worked out to suit an office, or adapted to the task of reading black type on white paper, may not suit the condition where the worker attempts to examine a metal casting against the background of a machine. Nor is the answer to a problem of this sort to be found in light alone. For what the eye sees is seldom light, but color. Foot-candles of radiant energy are significant only in so far as they form realities in human perception. The stratosphere, despite several thousand foot-candles of sunlight, is black.

Thus this article picks up where many lighting experts leave off. With the demand for more production, for measures to check the growing accident rate, the right application of color is as important as the right application of light in making the most of illumination. For light alone is a very ethereal thing and needs the more palpable support of colored surfaces in order to be useful. These, indeed, are what make light make sense in any event.

Seeing is vital to most human tasks. And seeing is dependent upon two factors—illumination and color. The first is the source of stimulation, the second the actual thing perceived.

The specification of color, particularly in industrial interiors, is not too well understood either in theory or practice by the architect. Nor does the lighting engineer himself always grasp its full significance. For while the color (and therefore the object) seen by the human eye is dependent upon light, the two are curiously independent. They may work in harmony to aid visibility, or they may be at loggerheads to defeat it.

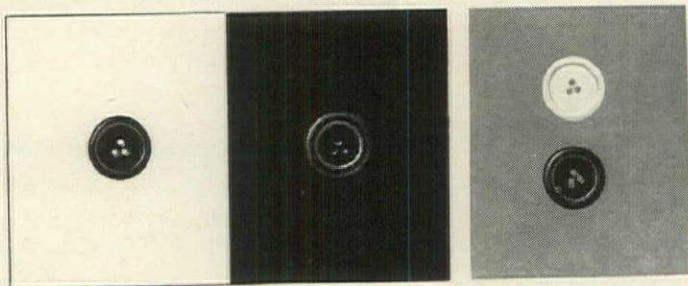
"Seeing is not a matter of looking at light waves as such, but of looking at external things mediated by these waves." (Ewald Hering) The eye rarely sees light itself; it sees the objects and surfaces which light reveals. You can shower a black room with 50 or 100 foot-candles of illumination, yet barring exposed lamps, glare and reflection, the eye might remain perfectly dark-adapted. For light has no meaning until it hits something that will, in whole or part, toss it back.

It is known that subtle changes in *illumination* are hard to detect. Luckiesh states that the pupil opening may remain constant for changes in brightness as high as 200 to 1—if the increase is gradual. But when it comes to objects, areas and colors, even the finest graduations are apparent. This fact will check with the experience of most people. You can read a book from afternoon into dusk and not be

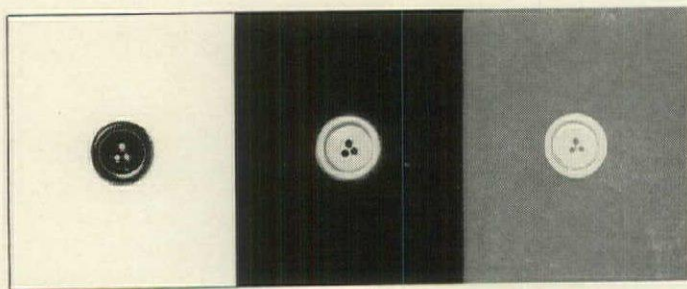
\*Faber Birren & Co., Industrial Color Consultants, New York, N. Y.



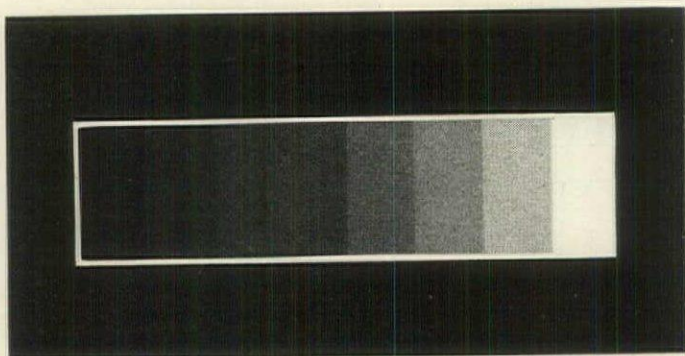
## COLOR FOR PRODUCTION



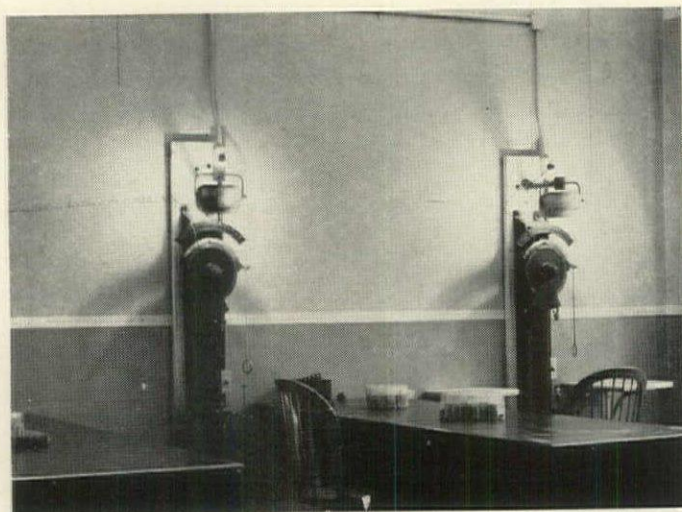
**IDEAL TONES:** where a variety of materials is handled, best contrast is achieved through the use of a background color that is the average color of the materials. Even where work is all one color, contrast should not be too great.



**EXCESSIVE CONTRAST** between object and background tends to strain the eye by producing distressing after-images and blurred edges. The ideal condition is that in which the background is slightly lower in brightness than the object of concentration.



**WHITE** is the only color to maintain its brightness under dim light—medium and deep tones tend to melt together. This phenomenon, which psychologists call "color constancy," may be turned to good advantage in painting interiors, especially where illumination is poor.



**WHITE DADO STRIP** dramatizes cleanliness and helps to conceal normal smudging of walls. Upper part of wall is painted a medium tone to provide a more restful background, lower part is darker for easier maintenance.

greatly conscious of the steadily decreasing illumination until it approaches the threshold of darkness. But if at any time you turn from a white sheet of paper to a gray sheet the difference would be noted in an instant.

These points may seem academic, but unless the simple facts of vision are understood many errors may be persistently and innocently made. A worker standing before a dirty, oily machine may try hard to tackle a difficult seeing job. A strong increase in illumination may help him to see—but it may also create too great a contrast with his surroundings and cause much visual distress. Extra light costs money. While more light is generally desirable in most working environments, sometimes the mere painting of a machine from black to gray, or the arrangement of a small, properly colored field, back of the working area, will do the job far better.

Under a single foot-candle of light a black button on a white cloth will be as visible as a black button on a black cloth under a thousand foot-candles.

Granted that the eye needs an ample flood of light to see clearly, it also needs a number of other things to see comfortably and efficiently. And most of these accompanying things concern color.

### COLOR AND ILLUMINATION

To build up illumination, brick walls are painted white. Brick walls have a reflectance factor of about 10; white paint a reflectance factor of 80 or better. Why not paint everything white?

But, if dingy walls are bad, the next worst color is white—almost without exception. It may seem contradictory to pound with the left hand for more light and then use the right hand to paint it out. Walls in most industrial interiors, however, are generally some distance from working areas. Even when they reflect 70 or 80 per cent of the light it makes little difference in the level of illumination in working areas. But, it is a law of vision that the eye is attracted by the lightest thing in its field of view, and for this reason light walls become a distraction. Another law of vision is that the pupil opening is regulated chiefly by the brightness that exists over the larger area of vision. Practically everything handled in industry—metal, wood, cloth—has a lower brightness than white paint. So the white wall constricts the pupil size, while the job to be done demands that it open to admit more light. Vision is handicapped. The white wall persists in competing for attention with the object handled. It persists in hurling its rays into the corner of the eye where they may cause no end of distress.

**Case history:** Complaints of eye strain in a drafting room having over 40 foot-candles of light on the horizontal plane were almost totally stopped when white walls and columns were painted out in a soft, pale gray of bluish cast.

A balance is needed between light and color. Most desirable is the condition in which the working area is *slightly* brighter than surrounding areas. Never black against white, or white against black, of course. Severe adaptive changes from dark to light or from light to dark are among the most tiring of all eye gymnastics.

Where the task involves seeing an object against space—generally a dark floor—higher visibility may be achieved by blanking that space off with a screen in an appropriate color. If such a background can be made to occupy about 45° of the visual field, it will help to control the pupil opening and hold it more or less fixed at the proper opening.

**Case history (1):** A severe visual task in a hosiery mill (with ample light) brought complaints of eye strain and fatigue. The



operators were expected to loop threads over a series of fine needles. These needles stood out in space. Confusing the task were strong brightness contrasts and motion (the operators sat directly in front of each other). By equipping each table with side and back panels, painted a light tone of gray-blue, the condition was relieved.

**Case history (2):** Workers on a power riveting machine tended occasionally to "move the foot before the hand" and rivet a finger instead of a stamping. Their task consisted of placing a piece of metal on a tall, conical form which "floated in space" before a black machine. To build up a better target, to blank out meaningless surroundings which invited distraction, and to provide a brighter field of illumination having softer contrast, a small, flat mask was fixed to the machine and painted a pale gray.

Eye strain affects muscular tension and heart action. It gets on the nerves, lowers morale. All this means impaired production, more rejects, higher accident rates and incompatible human beings. With color, psychological states as well as visual and physical states may be improved.

### CHOICE OF HUE

While the functional use of color concerns brightness more than hue, the matter of color choice—red, green, blue—offers an opportunity to control and influence human moods. People like color. Yet, in industry it is necessary to use it with some discretion.

1. As to the color of the illumination itself, much has been said regarding light sources having different spectral qualities. Where color discrimination is necessary, a simulation of daylight is naturally desirable. Daylight, however, can be overdone. There is much evidence that ordinary incandescent light (yellowish) is more generally satisfactory. In fact, if one is to choose between a bluish tint and a yellowish tint, the latter is psychologically superior. "Daylight" fluorescent tubes, while useful in some applications, are usually not as well-liked as the so-called "3,500° white," particularly for the general illumination of interiors. In any event, there is now such a variety of color in the light sources employed for industrial lighting that it must be taken into account in planning the color arrangement.

2. As to painted and decorated surfaces, color may be just as distracting as it is pleasing. The colors of walls, machines, backgrounds should obviously never be too pure or saturated. Light tones, pale in hue, are almost always best.

3. Where distraction is desirable—as on the lever of a machine, a guard, a danger signal or marking—the attention value of saturated hues may be desirable. Here yellow, orange and yellow-

green have higher visibility than the conventional red and should often be used in its place.

4. Where the general "feeling" of an interior is cold, a warm tone may be preferable. Where the interior seems stuffy and hot, a cool, grayish tone is usually indicated.

5. The eye focuses differently on different hues, being near-sighted to bluish rays and farsighted to reddish. This action is seldom important where colors are subdued. However, an end wall painted to offer visual relaxation should advisedly be greenish or bluish in tone rather than yellow or red, since such colors are inherently more retiring.

6. According to some psychological investigations people will judge dark objects to be heavier than light ones. In a blue environment time is likely to be underestimated. In a red environment time is likely to be overestimated.

7. In-between colors—bluish-greens, bluish-violets, buffs, etc.—are considered more livable than primary hues. They are less likely to grow monotonous.

### CHOICE OF BRIGHTNESS

Brightness, however, is the chief thing to be watched.

There must not only be enough illumination to see clearly, but the object seen must be visible in its surroundings. It must have moderate color contrast.

Walls brighter than the details of the task cause eye strain. They lower manual skill and prevent mental concentration.

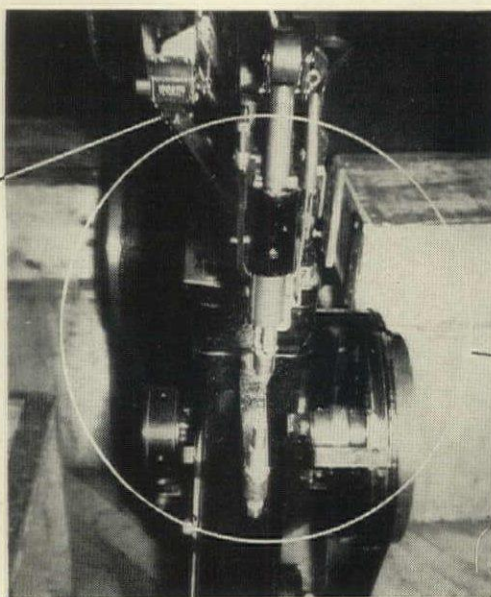
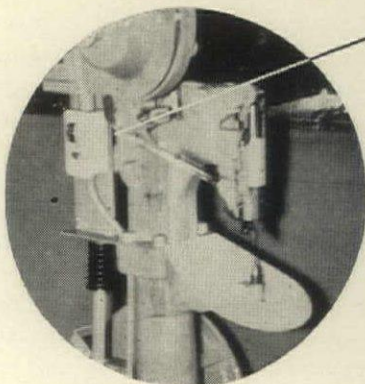
Where the object of concentration is naturally light in color or tone (paper, cloth, white materials) it should be given visual contrast that is moderate rather than severe. Black would be a poor background against which to sort white beads. The extremity of the contrast would soon lead to after-image effects in which the beads would seem to jump around like sparks. The room itself, on the outer boundaries of vision, should likewise be fairly light in color, but slightly lower in intensity than the working areas. This will limit the eye to a comfortable light-adaptation and prevent annoying pupillary changes.

Where the object of attention is naturally dark, such as metal, the local contrast should be with a background of slightly lighter color rather than deeper. Here it is particularly important that the surroundings be in fairly deep colors so that no blinding and glaring distractions are present. And, supplementary light sources directly over the working areas will probably be needed.

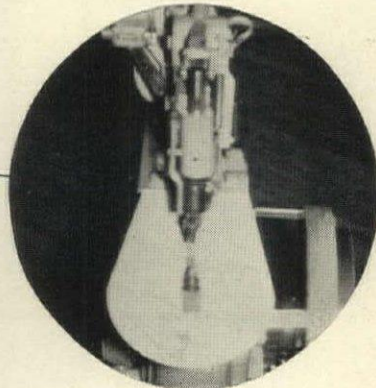
Where the task involves the visibility of a wide range of tones from light to dark, the background should attempt to strike an average.

As a matter of common observation, the human eye accommodates itself more quickly and easily to brightness than darkness.

**POWER RIVETER** painted and equipped to improve visibility: cut-off switch (below) has been painted bright yellow so as to be easier to locate in emergencies, and working background improved by the addition of . . .

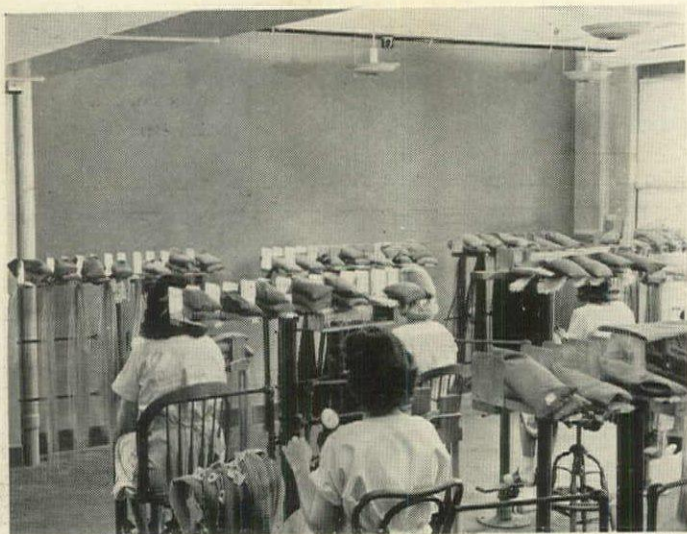


. . . a light metal shield directly behind the punch, painted a soft gray. This treatment is designed to decrease the number of accidents as well as increase production, does more to improve seeing than could have been accomplished by more illumination.





## COLOR FOR PRODUCTION



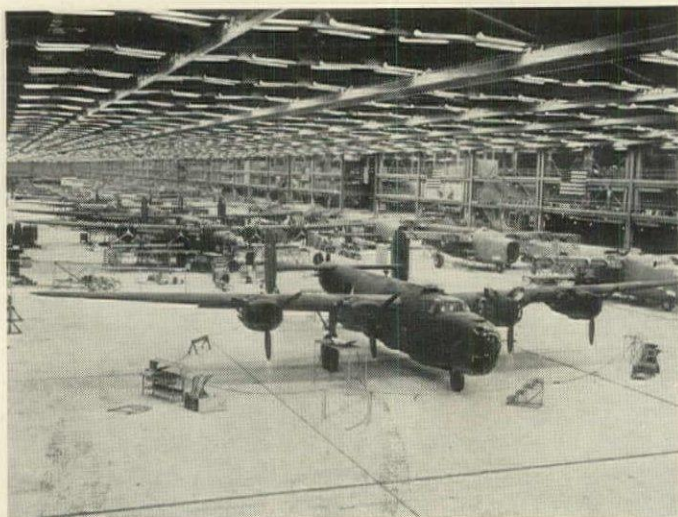
Sickles

**SOFT BLUE** end wall affords visual relief and relaxation from a testing operation involving a severe eye task. After looking up, the adjustment of the eye from wall to work is more quickly accomplished because it is from a darker tone to a lighter tone.



Alfred P. Lane

**GENERAL OFFICE** painted in two tones of soft blue-green for a cool psychological effect. The paint is subtly toned to be a trifle lower in brightness than the working surface of the desks.



**"WHITE" FLOORS**, made with white cement and light-colored aggregates, are a recent improvement in factory construction. Such floors improve seeing by reflecting upward about 45 per cent of the light, toning down harsh shadows and illuminating the under side of horizontal areas such as airplane wings. They also provide a better background for work of all kinds, without introducing glare such as would result from a glossy, pure-white surface.

In looking from a dark machine to a light wall, the wall has all the advantage. But when the contrast is reversed (the wall toned down and the machine brightened) the eye can readily get down to work.

*Case history:* A large, well-illuminated general office in a factory had white walls. There were complaints of fatigue and eye strain in working at accounting machines. General nervousness and tension were noted in the tendency of the employees to leave their work frequently and to be fidgety and irritable. Study revealed that the walls and columns caused glare and distraction. In glancing up the eye was saturated with brightness. When it returned to its task there was a temporary "blind" period during which the employee had to wait for her vision to adjust itself to the darker working area.

After painting the walls a soft, bluish green, greater visibility was effected. In glancing up, the lower-brightness surroundings were relaxing and restful. When attention was again directed at the work, there were no "blind" or "halt" periods, since the eye can quickly adjust itself to greater brightness.

Color is also important in offering relief during so-called rest or casual periods. No plant or office should be painted the same color throughout—nor illuminated to the same brightness. Restrooms and lunchrooms should be less bright and a bit more colorful. Such treatment will not only rest the eyes and help to offset fatigue, but will also afford a desirable "change of pace" from the worker's job.

Yet white, despite these drawbacks, has many utilities. It makes a good ceiling and upper wall if it is not too brilliantly illuminated, and if it is not so low as to be a source of glare. Because of what the psychologist calls "color-constancy," white holds its brightness in dim illumination. Medium and deep tones of color will, in somber light, "melt together" and appear alike. While the eye may lose its ability to detect small brightness and color differences under dim illumination, it never fails to see white as white under all lighting intensities.

A white dado strip in a dim corridor, a white lever on the shadowed or dark side of a machine, a white top and bottom step on a stairway, a white hand-railing, a white bin in a storeroom, all these, if kept clean, will serve a functional purpose.

*Case history:* To summarize a number of points, and to explain how color is "engineered" in actual plant decoration, consider the following specifications recently worked out for a manufacturer of surgical ligatures.

**Reception room:** Mainly an aesthetic problem. High fashion, however, avoided. Grayish-green grass-cloth for walls. Indirect illumination. Beige floor and furnishings.

**Private offices:** A choice for each executive of ivory, gray or soft bluish-green.

**General office:** South exposure. Abundant light. A pale, grayish blue-green for walls to introduce a subtle feeling of coolness. The brightness of the color was slightly lower than the brightness of average working areas.

**Factory section:** The manufacturing process involved acute discrimination and sterility. The product was grayish and tannish. Walls in two tones of gray (a) to avoid distraction, (b) to offer effective contrast with the materials, (c) to dramatize the various white gauzes, uniforms, etc., within the various departments. Soft grayish-blue end-walls in some locations to add unobtrusive interest and afford visual relaxation when wanted. White dado strips on walls in some locations to emphasize cleanliness and guide factory traffic.

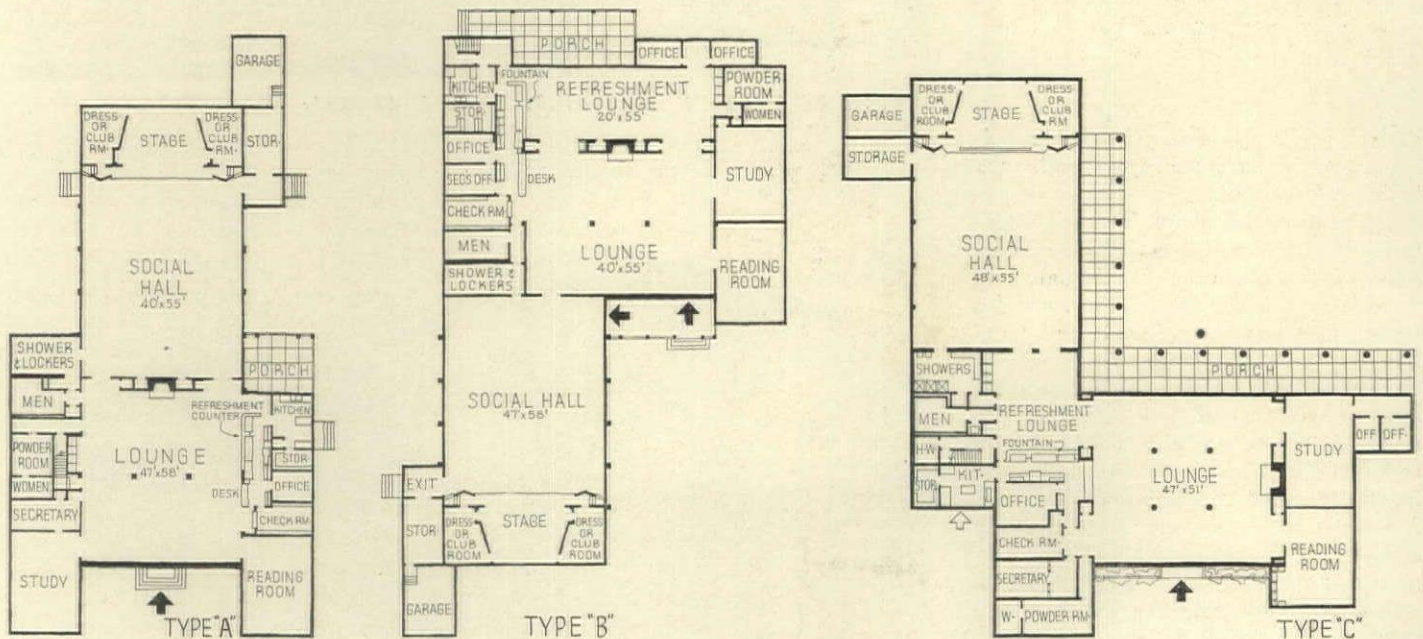
**Restrooms, locker rooms and washrooms:** Soft bluish-green as in general office and for same purpose.

Good vision demands ample light and proper brightness contrast. Illumination and color become one and the same thing—meaningless without each other, but potent in the conservation and direction of human energies when perfectly balanced.





United Service Organizations, Inc. was created to unite, in one co-ordinated organization, the many scattered groups which attempted, during the last war, to bring entertainment and other services to men in our armed forces. In the short period of its existence, USO has established an enviable record. Today there are 585 clubs and other service units operating, with 940 set as the total for this year. Activities include theatrical and motion picture entertainment, provision of stationery, books and writing facilities, and services to troops in advance bases, on guard duty, on leave and on maneuvers. USO has also done a splendid job in establishing contact between service men and the civilian population. Focus of most of these activities is the USO clubhouse, sometimes located in rented, borrowed or donated space, sometimes in new buildings constructed by the Government. The examples shown here belong in the last-named group. They follow, with varying degrees of accuracy, the basic types designed for USO by Architects ELY JACQUES KAHN and ROBERT ALLAN JACOBS.



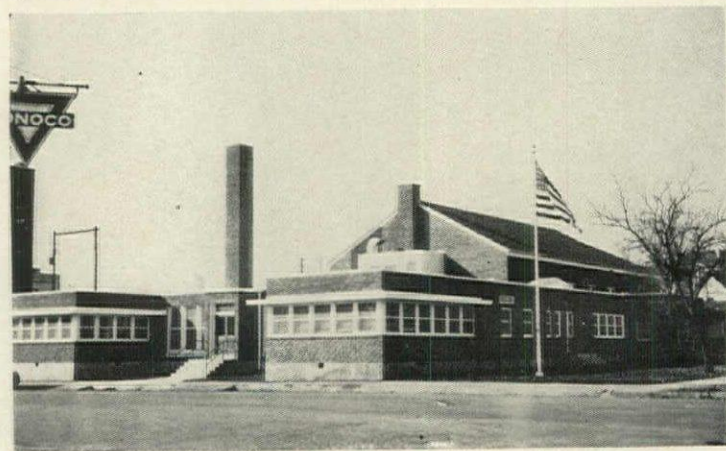


## USO BUILDINGS



SKETCH OF TYPE "A" BUILDING, KAHN & JACOBS, ARCHITECTS

The three illustrations show examples of the Type A building, the simplest of all the clubhouse designs. It is an elongated rectangle, with projecting wings at the front. The plan on the preceding page shows a large social hall, a lounge which is little more than a glorified circulation space with small rooms at either side. The design has been carried out in a variety of materials and in widely separated parts of the country.



SKETCH OF TYPE "B" BUILDING, KAHN & JACOBS, ARCHITECTS

Plan Type B, also shown on the preceding page, is an attempt to produce a building larger and more flexible in use than the examples above. There is direct access to the social hall, which relieves some of the strain on the lounge, and there is greater provision for privacy for service men and their friends and families. One great advantage of this scheme is that it lends itself with considerable ease to modification and extension. In several instances new elements have been added at the side or rear without impairing the convenient working of the plan. A comparison of the architects' drawing and one of the completed buildings suggests that the builders are not always concerned with following the letter or the spirit of the original design.



TEXARKANA, TEXAS

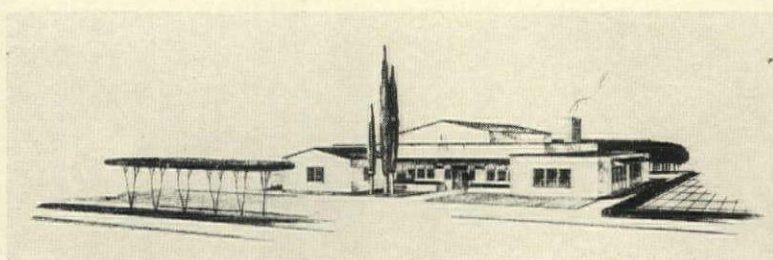




**CORPUS CHRISTI, TEXAS**

*Leslie Aylor*

Type C is an L-shaped plan, designed for use in warm climates. The lounge and social hall are located in separate wings and are connected by an open porch. Service rooms are similar to those in the other types. Shown below are executed examples of modifications of the standard designs. The building at Hempstead is the most interesting of these, and has been so successful with the local citizenry that an offer has already been made to take over the building after the war for use as a town hall.



**SKETCH OF TYPE "C" BUILDING**



**LEMORE, CALIF.**



**FAYETTEVILLE, N. C.**

*Francis A. Leigh*



**HEMPSTEAD, N. Y.**

*Official Photograph, U. S. Army Air Corps*



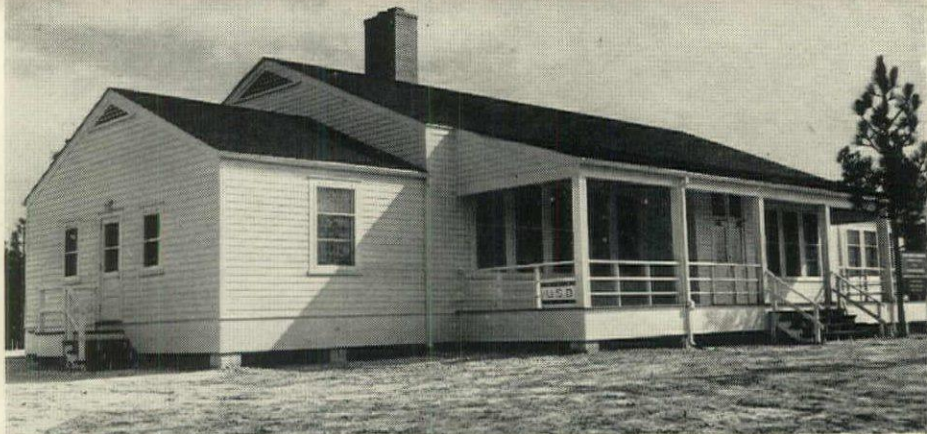
**HEMPSTEAD, N. Y.**

*Official Photograph, U. S. Army Air Corps*



## USO

In addition to the standard plans by Kahn and Jacobs, the USO has received a number of other designs from co-operating Government agencies, PWA, USO and Army architects. Two of these are shown at the right. The upper illustration is a very compact unit, with a social hall, no stage or lounge, and two wings at the sides containing a kitchen, bar, check room and reading room. The three interiors below are samples of what is being done in the way of furnishing and decoration. The large photograph shows a typical social room. The chairs are portable, permitting use of the room for dancing and other social activities; the stage at the rear is sufficiently large to take care of amateur theatrical performances.



SPRING LAKE, N. C.

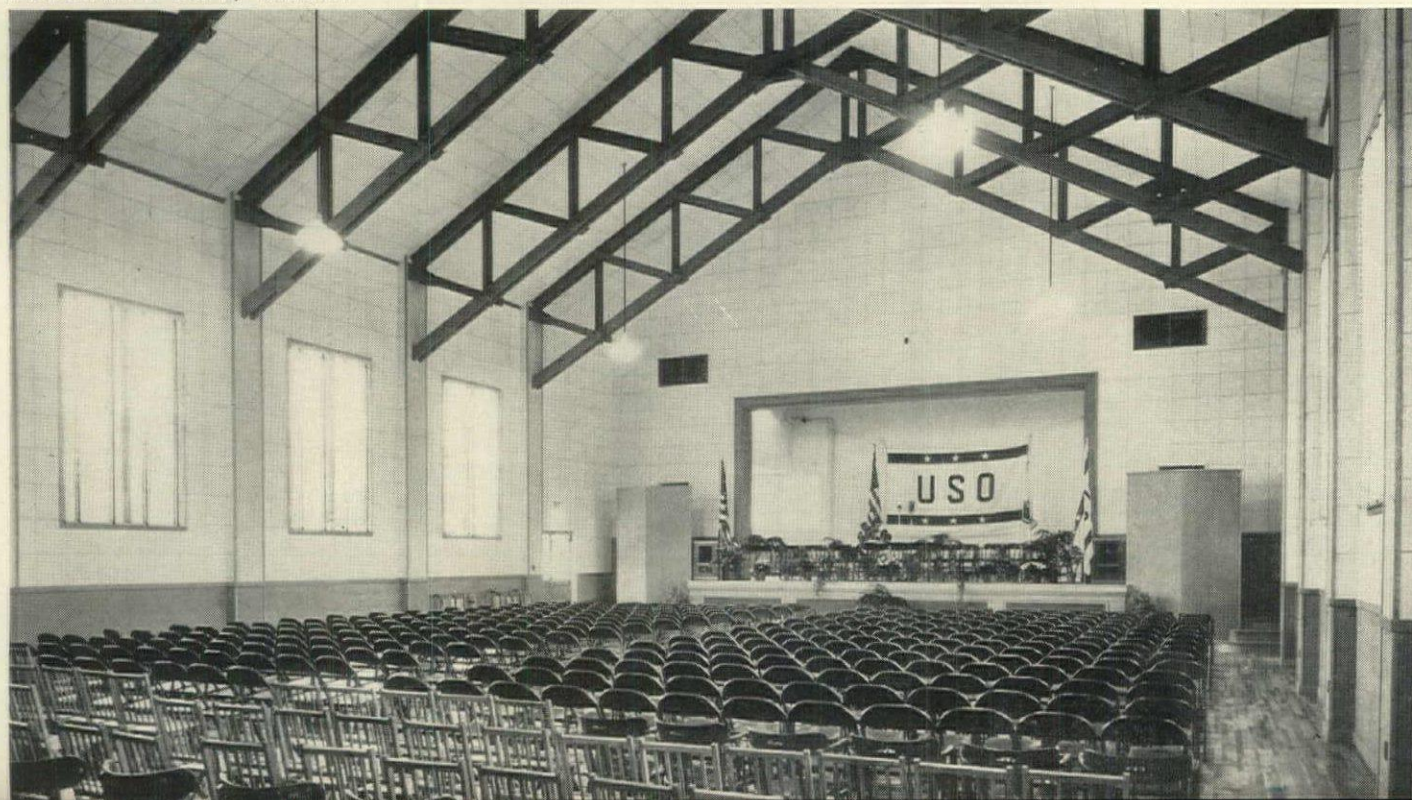
Francis A. Leigh



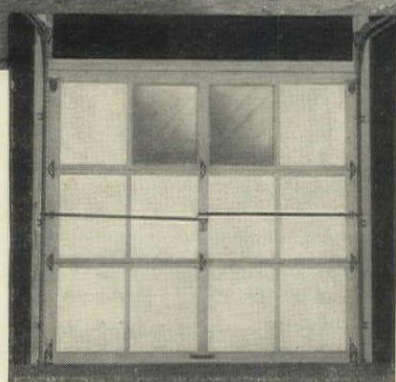
TAMPA, FLA.



BUZZARDS BAY, MASS.







View of Door from inside of Garage

## Ro-Way Model "R" Overhead Type Door

Made with 3 or 4 Sections, and in two sizes, 8' x 6'6", and 8' x 7'.

Write for Special Ro-Way Model "R" Folder. Also ask for Architects' 72-Page "Time-Saving Specification Book"—with detailed drawings on all Models of Ro-Way Doors for Residential, Commercial or Industrial Uses. Free on receipt of Professional Card or Letterhead.

## THE *Ideal Door* FOR TODAY'S LOW COST HOUSING JOBS!

**First of all**, Ro-Way designed this streamlined Model "R" Door especially to meet the demand for a Quality Door of true "Overhead Type" that could be easily and quickly installed.

**Second**, Ro-Way arranged to produce in its own plant every part of this Door—even to the Power Springs, Track, etc.

**Third**, Ro-Way factory production was geared up to produce them in lots of hundreds at a time.

### Then to Top Everything

Ro-Way put into these Doors four Extra Values found only in the more expensive Ro-Way Door Models. These features are:

**"Friction-Reducing Track"**—Rollers ride well away from the track side walls... **"Double-Thick-Tread"**—Track Rollers with 7 Ball Bearings to each Roller... **"Extra Bearing Support"**—for the load—Sheave Wheel to prevent side pull or twist—insures extra life and smoother operation... **"Rust-Resisting Hardware"**—all Parkerized and Painted after fabrication.

Remember, too, this Ro-Way Model "R" is of true Overhead Type... not a one-piece or tilting door. When opened, gives full drive-in clearance. When closed, locks secure! to track at both sides by special device operated from center of door.

**ROWE MANUFACTURING CO., 949 Holton Street, Galesburg, Illinois, U. S. A.**

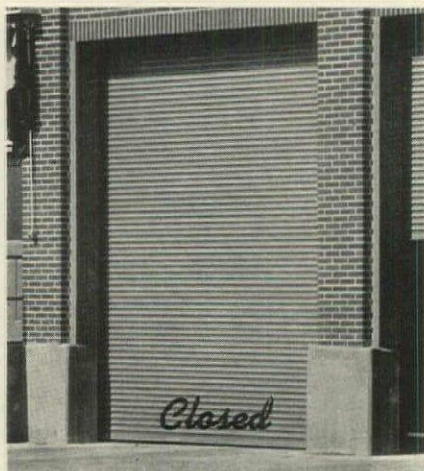
*There's a RoWay for every Door way!*



# THE DOOR OF THE CENTURY HAS BECOME THE DOOR OF THE HOUR!

Now, with demands for both efficiency and protection at doorways stepped up to the limit, the need for Kinnear Rolling

Doors' tough *interlocking-slat construction* and *coiling upward action* is more widely recognized than ever! The door of the century, originated by Kinnear nearly fifty years ago, is now the door of the hour!



The rugged Kinnear curtain provides thorough protection when closed. It pre-

TODAY'S  
BUILDINGS  
NEED THIS  
PROTECTION



vents intrusion, thwarts saboteurs, repels fire, and defies the elements. It stands up longer under today's punishing, night-and-day service . . . yet it permits quick, easy, economical repair in case of damage, because any number of slats can be replaced at any time.

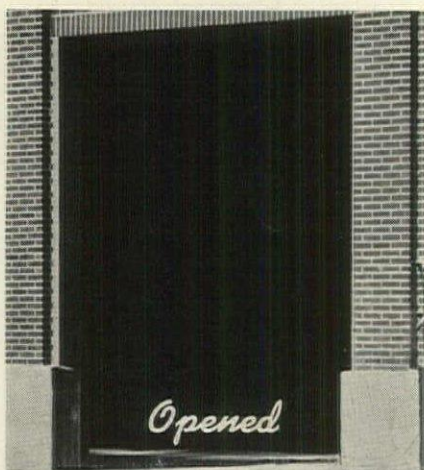


By opening into a small space overhead, Kinnear Rolling Doors keep all floor, wall and ceiling space around doorways

EFFICIENT  
UPWARD-ACTION  
AIDS  
PRODUCTION



clear and usable at all times. They never get in the way of traffic or plant operations, and they're always safely out of reach of damage when open. Kinnear Motor Operators may be added for maximum convenience, with any desired number of additional remote control stations.



You can have full assurance that buildings are planned for highest door efficiency plus full protection by writing

SAVES SPACE!  
OPENS OUT  
OF  
THE WAY



Kinnear into your specifications. Kinnear Rolling Doors are built any size, for any type of building, with motor or manual operation. See Sweet's, or write today for complete data. The Kinnear Manufacturing Company, 1640-60 Fields Avenue, Columbus, Ohio.

SAVING WAYS  
IN DOORWAYS

## KINNEAR ROLLING DOORS

## MONTH IN BUILDING

(Continued from page 37)

Newcomb, imported from Washington as star speaker, whetted design imaginations with a preview of ceramicized things to come. Already here or soon to arrive: glazed ceramic buttons in place of brass on soldiers' uniforms, a low-pressure clay pipe for cross-country transport of fuel oil, colored mosaic tile bathtubs and kitchen sinks (see FORUM, May, p. 8), pressed glass drainboards, glass kettles, glass packaging, glass hospital equipment (by WPB edict only fourteen out of 1,600 different items usually found in hospitals will continue to be made in metal).

Challenged guest manufacturers: "We know things can be made better and cheaper in ceramics. But we don't know what they will be—it's your job to develop the designs. We're looking for them."

## REALTY REPERCUSSIONS

WPB's freeze of non-essential building has also caused the market for better grade vacant lots to congeal, the Society of Residential Appraisers reports. Consensus of members is that suburban tracts, prize packages in recent years, will have to wait until after the war for any sales worth mentioning. The close-in variety of lots, which have hitherto gone abegging, contrariwise are now stepping into favor with investors highly sensitive to gas and rubber shortages.

## RENT CEILINGS

As July drew near, Price Boss Leon Henderson's rent-goons debated whether they would have to take further action to pin down rents in some 366 communities containing more than 89 million persons. Most of these localities had been designated as critical on April 28. However, under the Emergency Price Control Act (see FORUM, April, p. 44; June, p. 44), 60 days must pass before OPA can step in and peg rents to the maximum in effect on a specified date. During this period designated areas are free to deflate the cost of housing by any state or local action they desire.

In New York City OPA's regional rent administrator A. E. Casgrain announced Federal action would not be invoked. Reason: pledges of co-operation by local real estate interests in stabilizing rents on the recommended March 1 plateau.

## DEFLATION

To help snag any further price spiraling, the nation's 800,000 families buying FHA-insured homes have been asked by President Roosevelt to plank out bigger monthly installments, thus pay up their mortgages faster. This request came down the line via NHA Administrator Blandford and FH Commissioner Abner Ferguson to 18,750 private lending institutions. Promptly back up the

(Continued on page 95)



## MONTH IN BUILDING

(Continued from page 94)

line went pledges from big banks—among others, New York's Bowery Savings (holding \$13 millions in insured mortgages), Tarrytown's Washington Irving Trust (\$33 millions), Brooklyn's Dime Savings (\$25 millions), Long Island's South Shore Trust (\$15 millions)—to push the plan's advantages through personal contacts with home owners.

Altogether, in eight years of operation, FHA has insured approximately \$4 billions in small house mortgages. More than \$400 millions of these have already been paid off in full or otherwise retired.

**Trend.** Future home seekers will reap benefits in lower prices from the war's compulsory lopping off of construction frills and luxuries, sagely notes the Federal Home Loan Bank Administration in its current *Review*. Despite rising costs, permit valuations for single-family dwellings have decreased steadily. In this year's first quarter the average construction mortgage written by savings and loan associations was only slightly over \$3,500—well below last year's average.

### SCIENTIFIC LENDING

The day of the small-scale, shoestring builder is largely past, delegates to Dartmouth College's Bank Management Conference were reminded last month by New York's Savings Bank Trust Co.'s Research Director Irvin Bussing. Furthermore: "We have definitely moved into an era in which smaller initial down payments or equities are the rule. This means that lending institutions must operate on a smaller margin of error."

But, before any group of institutions can do any scientific large-scale financing of large-scale housing, they must learn as much as they can about various urban areas. Foremost among the factors to be studied is flow of population. To underscore this point, Fact-Finder Bussing paraded two potent statistics:

►Of the 31 metropolitan districts reporting largest gains in the past decade, 21 are southern communities, whereas, of the 46 with poorest showing, 43 are in the North.

►Biggest gravitational pull centers in Columbia, S.C. Ever since 1900 this town has grown faster than other U.S. communities. In the past decade its increase was three times faster than the average elsewhere. Conclusion: "It would be appropriate to investigate why this has been the case and appraise its significance from the point of view of home mortgage lending."

### AIR RAID INSURANCE

Ever since Pearl Harbor the Government has provided free blanket protection against property losses resulting from enemy bombs. Beginning this month,

(Continued on page 96)



## What paint for the Emergency?



**W**ASTE is taboo these days. Even appearances must, if necessary, take a back-seat to utility.

Fortunately, however, the house paint that has distinguished itself for long-lasting *protection* also has a reputation for long-lasting *beauty*.

Such a paint is the paint made with Eagle White Lead and linseed oil. Architects, builders and maintenance men know they can expect great things of it. This paint wears stubbornly and slowly. Its tough, elastic film doesn't crack or scale... leaves a perfect surface for repainting when repainting finally becomes necessary.

Eagle White Lead has been protecting and beautifying American homes, through war and peace, since 1843.



Guarantee  
of purity  
appears on  
every keg

# EAGLE WHITE LEAD



THE EAGLE-PICHER LEAD COMPANY  
Cincinnati, Ohio

Member of the Lead Industries Association



# NEW PLANTS?

# ★ CONVERTING?



## Plan for faster work in office or drafting room with Wakefield GRENADIERS

★ To get top speed in the plant, they need top speed in the office. For the "paper work" of office and drafting room guides and controls work in the shop.

And that's where the Wakefield GRENADIER can help you and your clients. Because the GRENADIER provides more light, fluorescent light; helps people see faster and better; helps them work faster; cuts eyestrain and fatigue. Mounted end-to-end, these units provide the pleasing effect of suspended troffers; with their functional lines of light; give smooth over-all lighting that makes every foot of floor space better working space; and permit quick installation.

You're doubly sure of dependable operation because the GRENADIER is made by Wakefield and because it's a Certified FLEURO-LIER . . . checked and certified by impartial Electrical Testing Laboratories. See our catalog in Sweets.

*Fluorescent lighting now calls for specified priorities. Our experience on this is at your service.*

**THE WAKEFIELD BRASS**  
**F.W. WAKEFIELD CO.**  
72 Forum Park • Vermilion, Ohio

## MONTH IN BUILDING

(Continued from page 95)

however, RFC's \$1,000,000,000 War Damage Corp. goes into action. Anyone wanting continued protection must now apply to his local fire insurance agent or broker.

Policies will be issued on a 12-months basis. Rates: 10 cents per \$100 for dwellings; ditto for churches, hospitals, public buildings, if fire-resistive, 15 cents if not; 15 or 20 cents for apartments, office buildings, warehouses, depending on type of construction; 20 or 30 cents for manufacturing plants, wharves, bridges.

Big virtue of scheme is fact that Washington escapes another wartime bureaucracy. The private fire insurance companies will handle all the mechanics, besides assuming 10 per cent of all losses in excess of net premiums up to a total of \$20 millions (with a corresponding rake-off in profits, if any). The task of underwriting war hazards was admittedly "too big and too dangerous" for the private companies to tackle alone. The Government steps in to cover the major risk, but utilizes existing machinery to carry out the work.

### SHELTER SUINGS

Landlords whose buildings are used as air raid shelters can stop worrying about law suits. According to an opinion advanced by California's attorney general and reported by the American Municipal Assn., the owner furthers no interest of his own in allowing his property to be designated as a shelter. Since shelter seekers are "gratuitous licensees," the owner therefore cannot be held liable for injury caused by a property defect. However, he must give proper warning of any known hazards.

### BLACKOUT SPECS

A bulletin, *Blackout of Buildings*, has just been issued by the Army's research agency at Fort Belvoir, Va. Available at present only to military and Government officials and to equipment manufacturers (republishing by the Office of Civilian Defense for general distribution is expected), the document sets up standard specifications.

Adequate interior lighting during blackouts is stressed for its beneficial effects: "Merely turning off all indoor lights causes serious disruption of normal military, industrial, commercial and home activities with attendant confusion, accidents and possible lowered morale—the very objective sought by enemy air raids." Solution: obscuration of windows and other openings in the building.

Respective merits of paints, adhesive coverings, screens, shutters, drapes, shades, also light-locks, are described. Practically any opaque covering is considered satisfactory. However, the specification notes one serious disadvantage to the use of paint or adhesive materials on glass—if shattered by bombs, the broken surfaces will expose light.

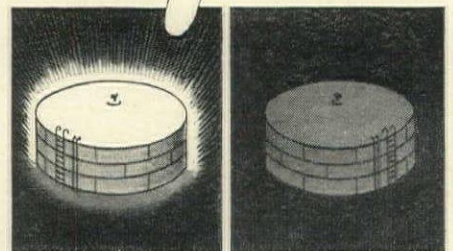
## ARCO INFRAY

### PROTECTS VITAL STORAGE TANKS

**S**TORAGE tanks painted in ARCO INFRAY'S\* dark, terrain-matching colors are less likely to be spotted by enemy raiders than tanks painted gleaming white or aluminum. Arco INFRAY provides the protective concealment of dark, low visibility colors, yet repels much of the sun's heat rays, holds down evaporation losses. Arco Research pioneered this new infra-red reflecting principle of paint formulation.

\* Patents Applied For

**THE ARCO COMPANY**  
CLEVELAND, OHIO • LOS ANGELES, CALIF.

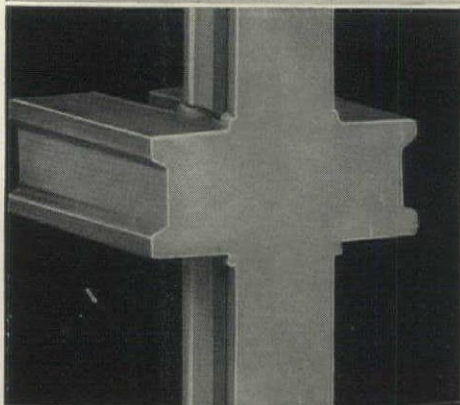


# ARCO

**Paints for Industry**



## make this Comparison

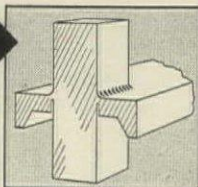


### ANCHOR-WELD JOINT

Grooved steel pickets and rails of equal weight are forced together under heavy pressure and electrically welded at eight points, resulting in a strong, inseparable union of great strength and rigidity.

### ORDINARY PUNCHED & CAULKED JOINT

The carrying channel is punched, weakening the rail. The under side of the channel is squeezed against (caulked) or "rack-welded" to hold the picket in position. Adds no strength or rigidity to the fence-panel.



Look for these *three* Anchor-Weld features—when you specify iron picket fence: (1) *Inseparably Welded Joints* (see top illustration) welded at *every* point of contact to prevent sagging and loose pickets. (2) *Rails and Pickets of Equal Weight*, made from weather-resistant copper-bearing steel, assure permanence of alignment and prevent sagging. (3) *No Center Supports*. An Anchor-Weld Fence needs no center supports, yet each panel will support a distributed load of one ton without showing permanent set. Learn how Anchor-Weld Iron Picket Fence lives up to your ideal Fence Specifications in other ways, too. Mail the Coupon below for catalog and a Sample Anchor-Weld (a nice paper-weight). No obligation, of course.

NATION-WIDE SALES AND ERECTING SERVICE



**ARCHITECTS Mail this Now!**

ANCHOR POST FENCE CO.

6635 Eastern Ave., Baltimore, Md

Please send me ( ) Anchor-Weld Iron Fence Manual. ( ) Anchor-Weld Sample Weld. ( ) Name of nearest Anchor Fence Engineer.

Name.....

Address.....

City.....State.....

## Building Reporter

(Continued from page 2)

**GREASE TRAP.** Ceramic construction eliminates 98% of metal formerly used.



**Name:** V.G.E. (Vitreous Glazed Earthenware) Greaseceptor.

**Purpose:** To replace cast iron unit.

**Features:** Trap's only metal is for cover clamps and pipe connections—about 2% of the metal traditionally used. Handled with reasonable care, it is as durable as cast iron, boasts added advantage of smoother surfaces. It resists thermal shock, important in any fixture carrying alternate surges of hot and cold water. Approximately 90% of its interior (see cut, above) serves to intercept grease.

**Manufacturer:** J. A. Zurn Mfg. Co., Erie, Pa.

**BLACKOUT SIGNS.** Printed plastic plates can be easily read in the dark.

**Name:** Blackout Signs.

**Purpose:** To be legible in the dark without the use of light that might be visible to enemy planes.

**Features:** Laminated plastic plates are printed in phosphorescent and fluorescent inks, both of which glow brightly in the absence of visible light. The phosphorescent ink is activated by ordinary white visible light and will remain legible for two hours after the light is turned off. The fluorescent ink is activated by ultraviolet or "black" light and remains legible as long as ultraviolet light is thrown upon it. Plates can be printed in various colors. Lettering is protected against injury from grease or cleaning solutions by plastic films. At present the process is available only where identical signs are required in considerable quantity; it is not available where only one or two signs of a kind are required.

**Manufacturer:** Formica Insulation Co., 4623 Spring Grove Ave., Cincinnati, Ohio.

(Continued on page 98)

## YOU CAN'T PREVENT LIGHTNING—



# BUT YOU CAN TAME IT

### TO PROTECT VITAL WAR PRODUCTION

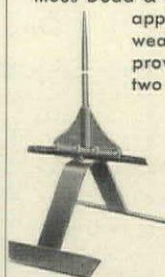
★ Vital war production must be maintained at all costs today. That is why the safeguarding of life and property against accident, sabotage, and even Nature's destructive weapon of lightning has taken on new importance.

That is also why West Dodd Lightning Protection and static control equipment is being widely used on Army Ordnance Plants in all parts of the country. Helping protect ammunition loading lines, underground magazines, standard magazines, bag loading buildings.

Many important industrial plants also have West Dodd protection against lightning on their power stacks.

### WEST DODD PLUS FACTORS

West Dodd represents a consolidation of the 12 old line manufacturers, including the famous Dodd & Struthers Company, pioneer of approved lightning protection. This wealth of experience and a long proved record of responsibility are two important plus factors.



The West Dodd end aerial, complete. In center is the exclusive West Dodd cable and point connector. It eliminates sharp bends formerly necessary to bond aerial and conductor. Quicker to install. Eliminates a number of connectors. Simplicity adds to efficiency and longer life.

## WEST DODD LIGHTNING CONDUCTOR CORP.

A RELIABLE PROTECTION AGAINST  
A LEADING CAUSE OF FIRE



GOSHEN, INDIANA

FREE assistance in planning installations and estimating costs. Telephone or telegraph today.



## Building Reporter

(Continued from page 97)

**RADIATOR TRAP**, other heating devices revamped for wartime requirements.

*Name:* Dunham Radiator Trap.

*Purpose:* To meet Government restrictions on the use of critical metals.

*Features:* Part of the company's new "Victory Line" for vapor and vacuum heating, this thermostatic device uses cast iron in place of brass. It has two main parts—a cast iron body with cuprous alloy

valve seat and a cast iron cover containing the fluid-filled thermostatic disc. Connections are left-hand tapped inlet and right-hand outlet. Available sizes: 1/2 in. and 3/4 in., delivered in painted gray enamel. The cover and disc assemblies are interchangeable with former standard traps.

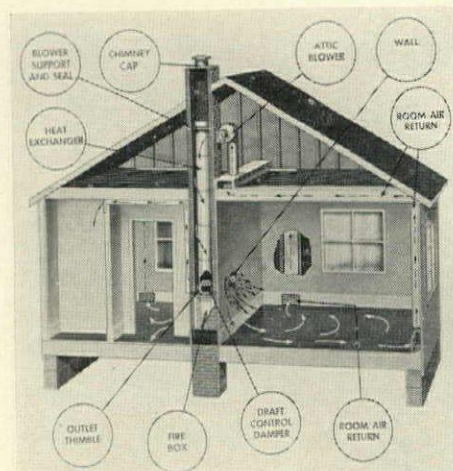
*Manufacturer:* C. A. Dunham Co., 450 East Ohio St., Chicago, Ill.

**FURNACE.** Coal-fired unit heats via chimney, requires no room space.

*Name:* Fluemaster Furnace.

*Purpose:* For low-cost war housing.

*Features:* Heating unit—a fire pot on either the first floor or basement level—



is concealed entirely inside the chimney. A heavy metal, porcelain enameled heat exchanger flue, through which the hot combustion gases travel, extends up above the attic floor. At this point an automatically controlled blower forces heated air downward, in a counter flow, through the chimney and out into various rooms through baseboard, wall or ceiling grilles. Return air is drawn through wall baseboard grilles, through studding spaces and attic floor joists, back into the blower—and again down through the chimney heating space. System's operating cost is said to be exceedingly low. At most, only a few feet of warm air ducts are required, and necessary return air duct work is entirely of non-critical material. An attachment is available for domestic hot water requirements, if desired.

*Manufacturer:* Round Oak Co., Dowagiac, Mich.

**FLAME PROOFING** treatment does not change material's appearance.

*Name:* Abopon.

*Purpose:* To eliminate fire hazards.

*Features:* Especially adapted to the protection of wood structures, this process has an added wartime advantage in resisting spread of fires caused by incendiary bombs. Blowtorch tests show that treated building materials (e.g., white pine, masonite, celotex, upson board) cease to glow within a few seconds after removal of the flame, whereas untreated panels continue to glow until they are quenched. The treatment is odorless, colorless, non-corrosive, non-toxic. Finished surfaces can be painted or lacquered as desired.

*Manufacturer:* Glyco Products Co., Inc., 230 King St., Brooklyn, N. Y.

**BLACKOUT FORMULA** makes industrial windows non-reflective, shatter-resistant.

*Name:* Ruberoid Industrial Blackout Formula.

*Purpose:* For use on windows, skylights, other glazed openings.

*Features:* Outside of each pane is first

(Continued on page 100)

## FOR WAR-TIME NEEDS — —

**Sedgwick Dumb Waiters and Elevators**

SAFE • DEPENDABLE • ECONOMICAL  
Electric and Hand Power

## MORE EFFICIENT VERTICAL TRANSPORTATION

Just as many Architects, Engineers and Draftsmen have already adjusted their technical knowledge to war time conditions and National Service, so Sedgwick has been applying its engineering and production skill to meet changing needs in lift requirements. Many unusual problems have already been met, many will be met, to provide the type of equipment which will best serve special and critical demands. In order to conserve motors and metals, even though permissible under priority control, we suggest you

## SPECIFY HAND POWER ELEVATORS AND DUMB WAITERS Wherever Possible

### SPECIFY Hand Power SEDGWICK DUMB WAITERS

for food service, supplies, garbage disposal in canteens, mess halls, hospitals and other institutions, and for any special needs where loads do not exceed 500 lbs.

### SPECIFY Hand Power SEDGWICK ELEVATORS

for handling freight and other heavy or bulky loads, for movement of patients and staff in hospitals, for mortuaries, and for any special needs where loads range up to 2,000 lbs.



We invite consultation and offer fullest cooperation in connection with any problem related to vertical lifts.



## SEDGWICK MACHINE WORKS

140 West 15th Street

Established 1893  
Member of Producers' Council, Inc.

New York, N. Y.





# Carey

## BUILT-UP ROOFS

MEETING ALL SERVICE CONDITIONS  
IN TODAY'S ESSENTIAL CONSTRUCTION

Whether the need is for permanent or temporary construction, there is a CAREY Roof that will meet the requirements and render the maximum of service for every dollar invested.

Carey Roofs are engineered to withstand the extremes of weather, chemical fumes, salt air, and other adverse local conditions that may affect roof life. That's why they are so dependable — so long-wearing — why they are so favorably considered by architects, contractors and owners.

These time-proved roofs today are protecting hundreds of millions of dollars invested in plants and equipment throughout the country. Backed

by the nationwide Carey contract roofer organization, you may specify CAREY ROOFS with the certainty that they will be built to the highest standards of workmanship and with every advantage of time-saving that such an organization makes possible.

See Catalog in Sweet's, or write for valuable book—"Master Specifications of Built-Up Roofs." Address Dept. 20.

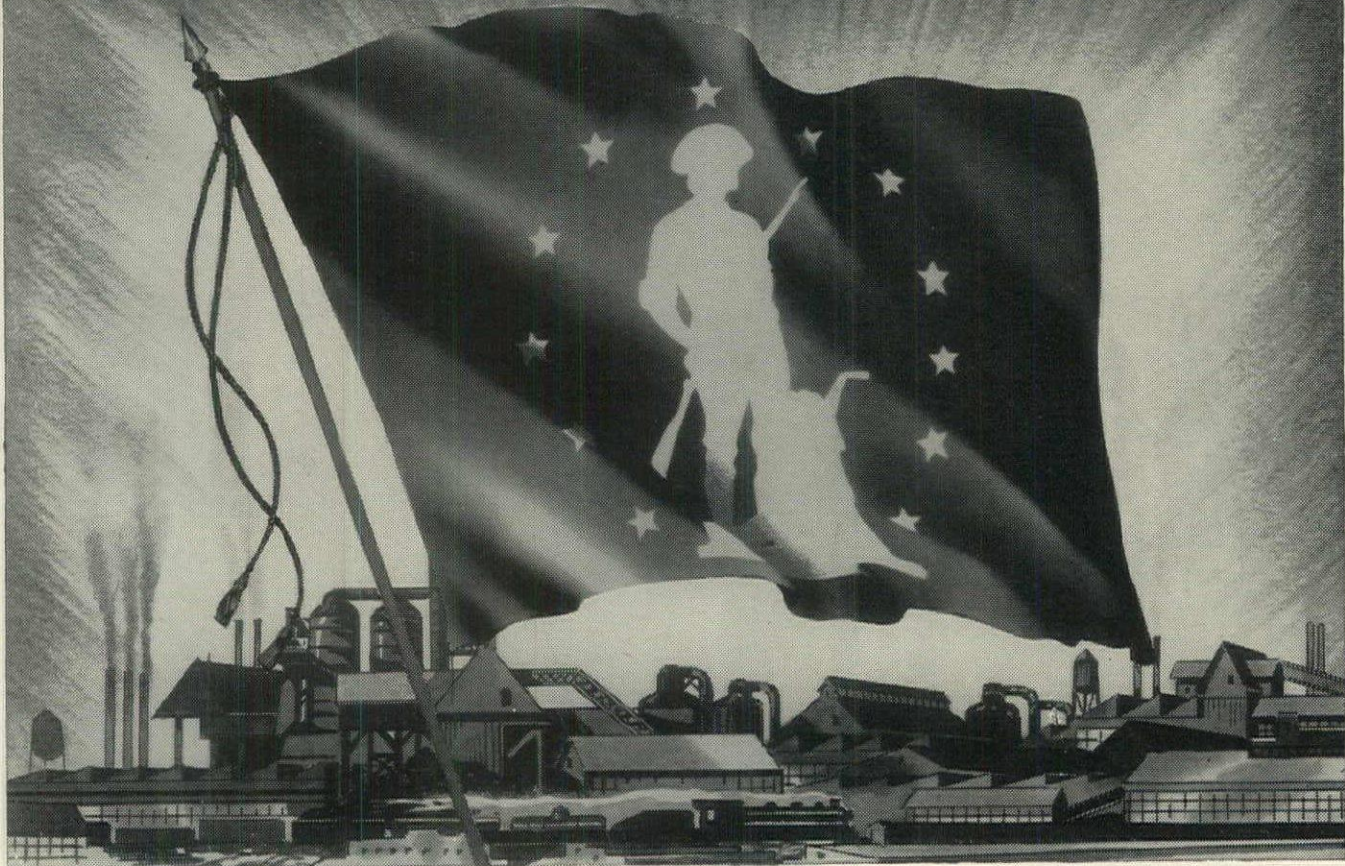
**THE PHILIP CAREY MFG. COMPANY**  
Dependable Products Since 1873  
LOCKLAND, CINCINNATI, OHIO

In Canada: The Philip Carey Company, Ltd.  
Office and Factory: Lennoxville, P. Q.

Illustrations—Top to bottom: Toledo Water Works; Mid-West Industrial Plant; Public Housing Project; Greyhound Bus Station, Cincinnati.



A WAR MESSAGE FROM THE UNITED STATES TREASURY DEPARTMENT



*Next to the Stars and Stripes . . .*

## AS PROUD A FLAG AS INDUSTRY CAN FLY

Signifying 90 Percent or More Employee Participation in the Pay-Roll Savings Plan

IT doesn't go into the smoke of battle, but wherever you see this flag you know that it spells Victory for our boys on the fighting fronts. To everyone, it means that the firm which flies it has attained 90 percent or more employee participation in the Pay-Roll Savings Plan . . . that their employees are turning a part of their earnings into tanks and planes and guns *regularly*, every pay day, through the systematic purchase of U. S. War Bonds.

You don't need to be engaged in war production activity to fly this flag. Any patriotic firm can qualify and make a vital contribution to Victory by making the Pay-Roll Savings Plan available to its employees, and by securing 90 percent or more employee participation. Then notify your State Defense Savings Staff Administrator that

you have reached the goal. He will tell you how you may obtain your flag.

If your firm has already installed the Pay-Roll Savings Plan, now is the time to increase your efforts: (1) To secure wider participation and reach the 90-percent goal; (2) to encourage employees to increase their allotments until 10 percent or more of your gross pay roll is subscribed for Bonds. "Token" allotments will not win this war any more than "token" resistance will keep our enemies from our shores, our homes. If your firm has yet to install the Plan, remember, **TIME IS SHORT.**

*Write or wire for full facts and literature on installing your Pay-Roll Savings Plan now. Address Treasury Department, Section D, 709 12th St., NW., Washington, D. C.*

*Make Every Pay Day "Bond Day"*



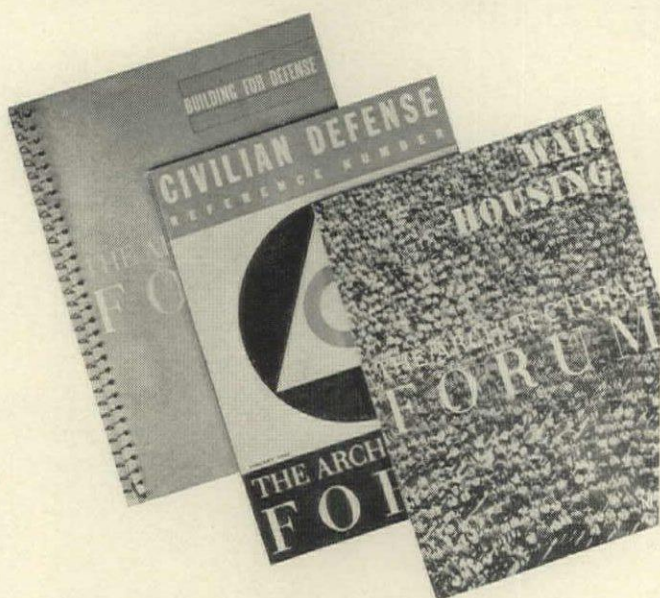
U. S.

# WAR Bonds ★ Stamps

This Space is a Contribution to Victory by

THE ARCHITECTURAL FORUM





## Will You Match 2,400 Hours of Our Time Against One of Yours?

One hour a month you spend in reading THE FORUM gives you the benefit of 2,400 hours spent by THE FORUM'S staff of editors and researchers—the best way to keep informed on every phase of Building today.

For America's designers and builders are now making days do the work of weeks in building plants for making the armaments of war . . . constructing houses for the thousands of workers who operate these plants . . . and devising protective measures against enemy attacks.

New planning ideas and new construction methods are being evolved so rapidly that ordinarily it would be an impossible task to keep up-to-date with each month's progress.

Only because THE FORUM has the advantage of TIME and LIFE's great news-gathering resources is it possible to promise our readers that future issues of THE FORUM will maintain the same standard established by its three already published wartime Reference Manuals, and continue to present:

1. All important new developments in today's building practice, highlighting the many advances of permanent value which clearly point the way to Postwar construction and design.
2. Interpretative reports of all National Building news . . . as well as significant news of local origin.

A limited number of copies of THE FORUM's War Housing Reference Number are still available at one dollar per copy.

Orders and remittance for additional copies should be addressed to "The Circulation Manager."

THE ARCHITECTURAL FORUM  
19 West 44th Street New York, N. Y.

## Mr. B. Smart Says:



THERE'S A KOVEN  
WATERFILM BOILER  
FOR EVERY TYPE OF  
HEATING PROSPECT!

### KOVEN WATERFILM BOILER FEATURES:

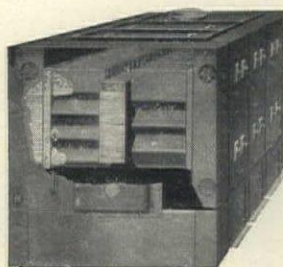
- 1—QUICK HEATING LEADERSHIP—due to the KOVEN WATERFILM'S PATENTED CONSTRUCTION which cannot be duplicated in any other boiler.
- 2—ECONOMICAL OPERATION—Another Popular Feature of the KOVEN WATERFILM—the boiler whose fast steaming leadership results in Low Fuel Cost!
- 3—RUGGED CONSTRUCTION—Designed and manufactured by KOVEN, one of the largest fabricators in the East.
- 4—IDEAL FOR AUTOMATIC FIRING with OIL, STOKER or GAS.



THIS IS THE  
DE LUXE MODEL  
FOR  
BETTER GRADE  
HOUSES



THIS MODEL "O"  
IS THE IDEAL  
BOILER FOR THE  
SMALL HOME



THIS SECTIONAL SERIES  
FOR INDUSTRIAL  
AND APARTMENT  
HOUSE INSTALLATIONS  
SAVES EXPENSE  
BECAUSE IT CAN  
BE TAKEN THROUGH  
A 2-FT. DOOR!

Write or telephone for complete details  
concerning these remarkable boilers.

## WATERFILM BOILERS, INC.

154 Ogden Avenue, Jersey City, N. J.  
PLANTS: Jersey City, N. J. and Dover, N. J.



## Building Reporter

(Continued from page 98)

coated with a 1/16 in. layer of plastic cement. Over this a sheet of saturated asbestos felt, cut slightly larger than the pane, is applied, and the felt is then covered with another layer of plastic cement applied with a trowel. Within three or four days the surface becomes a dull black. Formula also adds to the shatter-resistance of the glass.

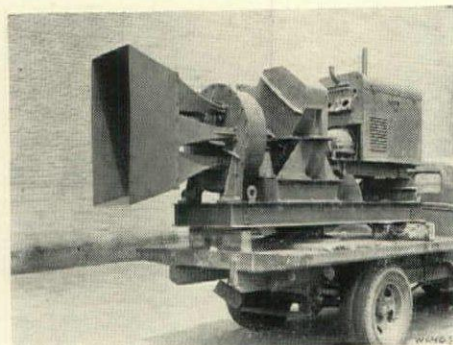
**Manufacturer:** The Ruberoid Co., 500 Fifth Ave., New York, N. Y.

## A. R. P. SIRENS & ALARMS

*Culled from the many new models designed to sound warnings both inside and outside buildings:*

**Name:** Chrysler Air Raid Siren (see cut).

**Features:** This noise-producer grows out of joint research by Chrysler engineers and American Telephone & Telegraph's Bell Laboratories. The noise is created by high-frequency disturbance of air, achieved by means of a "chopper" 25 in. in diameter, revolving with minimum clearance across the openings of six rectangular throats. These in turn connect with the horn. Compressed air, under 5



Chrysler's new ear-splitter.



Foster's howler. Bendix-Westinghouse's.

## Honest Now Are You For or Against Panel Heating?

**W**HATEVER your feelings are about it, want you to know ours are "beyond prejudice" as the lawyers say. If loops of pipes in the walls or under the floors are *thot* to be a more agreeable or effective heat because of its being *all radiant*, then we stand ready to lend you every assistance.

It's our observation that one of the most satisfactory methods is the under floor coils for the first story and regular radiators for the second. Then have each floor operated by a separate thermostat controlling the two circulators.

Because of initial slowness in heat-

ing up the floors or walls of the *first floor*, before any heat is given off, it is considered more satisfactory both as to fuel and comfort, to keep the warm water in constant circulation.

However, some claim that once the floors are thoroly heated thru, the constant circulation is not necessary.

Our attitude is that there is still much to be found out about its use in this country, even tho it has been employed with success for many years in England. In any event, we stand ready to lend you a hand.

### Burnham Boiler Corporation

Irvington, N. Y.  
Dept. J

Zanesville Ohio  
Dept. J

Representatives In All Principal Cities  
of the United States and Canada

lbs. of pressure at the rate of 2,500 cubic feet per minute, is introduced behind the "chopper." As the compressed air rushes towards the six vents, it is "chopped" off by the revolving blades, thus setting up the vibrations which cause the noise. Operating at full throttle, the siren produces 170 decibels of sound at the throat, diminishing to 140 at a distance of 100 feet. (Scientists estimate 190 decibels are maximum that can be produced.)

**Manufacturer:** Chrysler Corp., Industrial Engine Div., Detroit, Mich.

**Name:** Foster Air Raid Siren (see cut).

**Features:** Unit operates on steam or air at 50 to 250 lbs. pressure, 425° F. total temperature. It produces a rising howl that reaches its maximum tone in three to five seconds.

**Manufacturer:** Foster Engineering Co., 109 Monroe St., Newark, N. J.

**Name:** Eaves Sound Projector (see cut).

**Features:** This multiple horn unit houses its own power plant. From one to eight air heads, in conjunction with single horns, can be combined to give different ranges of audibility. Not limited to a single set warning note, they can also produce various combinations of tones, including voice or music.

**Manufacturer:** Bendix-Westinghouse Automotive Air Brake Co., Elyria, Ohio.

**Name:** Sterling Type F Siren.

**Features:** Equipped with a 110-volt motor that operates on any ordinary lighting

(Continued on page 102)





Above: Social Hall and Auditorium. Architect: Edwin J. Robin, New York City.

At Left: School-house. Architect, Adams & Prentice, New York City.

## WHEN *Time is Short*

When you're building today—for use tomorrow—there are special advantages in using Cabot's Shingle Stains. They are easy to apply. They cost less than paint. They preserve the wood. And they do not peel or blister even when applied on green lumber or before the building has dried out.

**FREE BOOKLET**—*Stained Houses*. Generously illustrated. Contains helpful information about Cabot's Creosote Stains and Cabot's Heavy-

Bodied Stains. Write for your copy and color card today. (Or look up Cabot's Stains in Sweet's.) Samuel Cabot, Inc., 1271 Oliver Building, Boston, Mass.

## Cabot's Shingle Stains

**Creosote**

**Heavy-Bodied**

SPECIFY CABOT'S SHINGLE STAINS—CABOT'S DOUBLE-WHITE and GLOSS COLLOPAGES—CABOT'S "QUILT"—"FLEXIBLAC"



## Building Reporter

(Continued from page 100)

circuit, this signal is easily installed. A swivel bracket permits mounting in any position. Simply pulling the control on a hooked-up pull lever box sets the siren in action for one, two or three minutes, as desired, after which it stops.

**Manufacturer:** Sterling Siren Fire Alarm Co., Inc., Rochester, N. Y.

● **Name:** Diaphone Public Alarm System.  
**Features:** Operating on compressed air,

this self-contained unit builds up a reserve supply by means of automatically controlled motor compressors. The air is stored in a tank until needed. Horn has an unmistakable tone; can sound coded signals in short, clear, distinct blasts.

**Manufacturer:** The Gamewell Co., Newton Upper Falls, Mass.

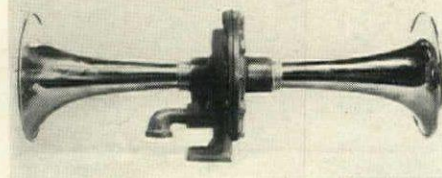
● **Name:** Dilks Fluid Flow Speech and Signal System (see cut).

**Features:** System includes a transmitter, a 2 h.p. motor and compressor, a 50-watt amplifier, a horn, an oscillator or siren sound generator, a microphone.

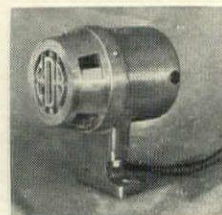
**Manufacturer:** Dilks Sales Co., South Norwalk, Conn.



Dilks System includes public address.



Buell Horn—two trumpets, one valve.



Bullard Siren (above)  
Edwards Raid Alarm  
Signal System (right)



**Name:** Buell 600F Horn (see cut).

**Features:** A single disc valve comprises the only moving part, dispenses sound through two trumpets. It operates on air pressure from 5 lbs. up, volume being controlled by a shut-off valve in the air supply line independent of tank pressure. Installation in an air shaft or ventilating system is suggested for increased sound coverage.

**Manufacturer:** Buell Mfg. Co., 2975 Cottage Grove Ave., Chicago, Ill.

● **Name:** Bullard General Alarm Sirens (see cut).

**Features:** Three models are offered for building use— $\frac{1}{4}$  h.p.,  $\frac{3}{4}$  h.p., 1 h.p. (illustrated). All operate by connecting with specified voltages (110 or 220 for the big unit).

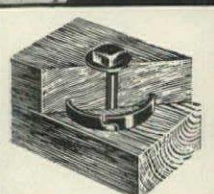
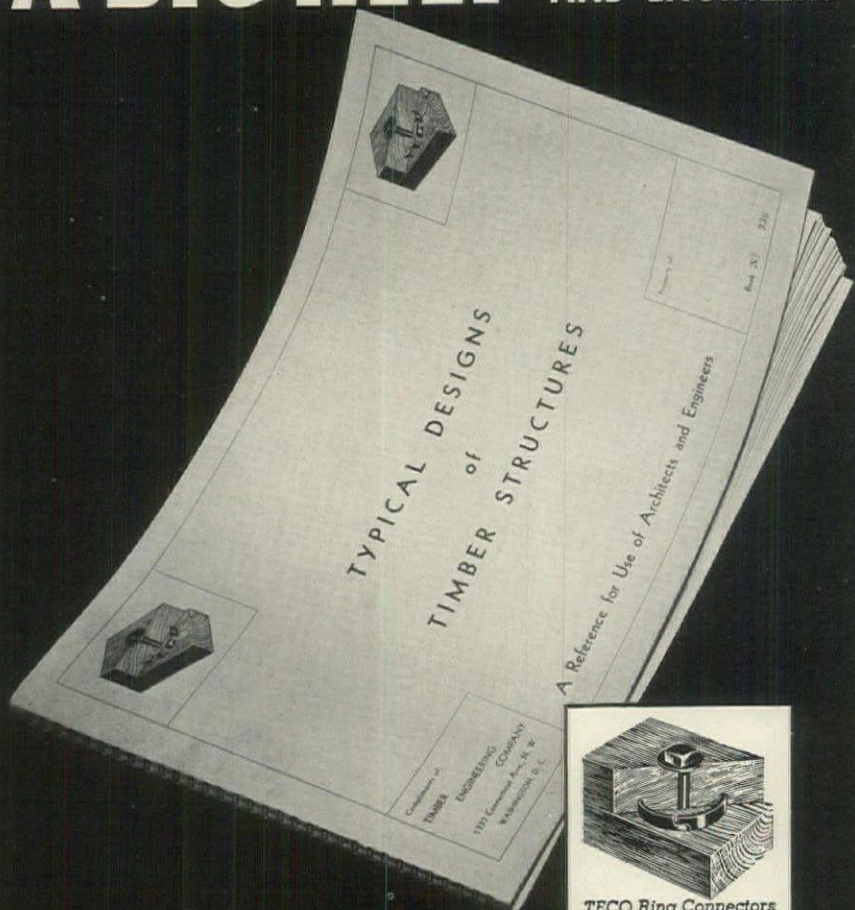
**Manufacturer:** E. D. Bullard Co., 275 Eighth St., San Francisco, Calif.

● **Name:** Edwards Air Raid Alarm Signal System (see cut).

**Features:** Signals shown are horn on left, buzzer on right. These may be interchanged with bells, sirens or other signaling devices needed to cut down local noise conditions in actual installation. By pulling the lever on coded box marked "Alert," a series of long blasts is sounded

(Continued on page 104)

## A BIG HELP TO ARCHITECTS AND ENGINEERS



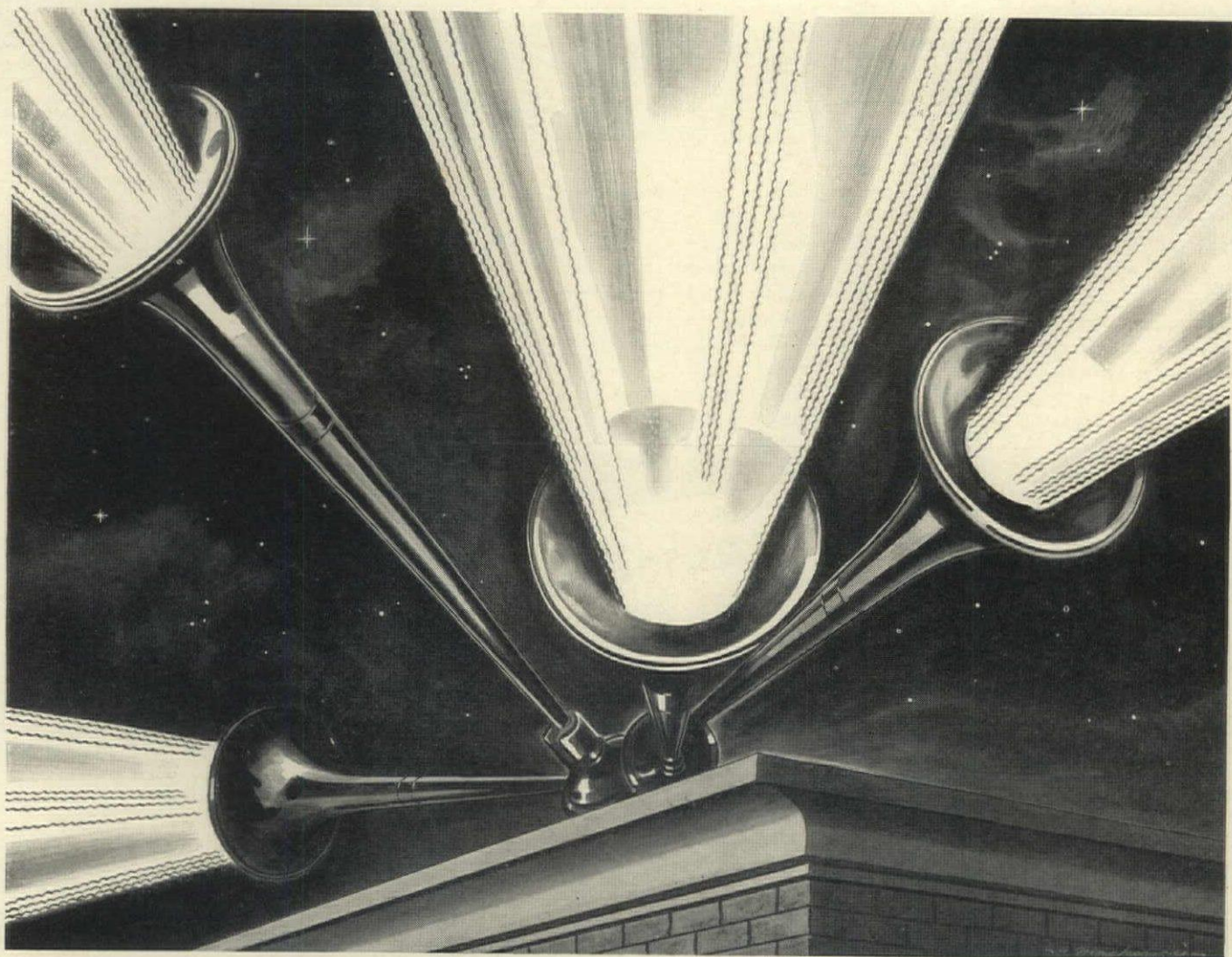
TECO Ring Connectors spread the load on a timber joint over practically the entire cross-section of the wood.

**T**HIS FREE REFERENCE BOOK shows in detail how designers are taking full advantage of the TECO System of Construction by using timber as a modern engineering material. Available to any architect or engineer who has not already received a copy. Please write on your firm letterhead.

### Timber ENGINEERING COMPANY

WASHINGTON, D. C.  
PORTLAND, OREGON





## ALL CLEAR ON THE PRODUCTION FRONT

From the production of tiny lens systems to three-quarter-ton airplane engines, the United States is winning an air battle within the very walls of its factories—a battle against the dangers of air-borne dirt.

In this 24-hour-a-day battle, damaging dirt and haze are cleared away as if by magic. Dust-free circulating air protects super-finished parts for airplane engines, reduces maintenance shutdowns for large rotating electrical machinery, checks atmospheric contamination in drug laboratories, and helps safeguard employe health.

We are creating this "all clear" atmosphere with PRECIPITRON\*—the Westinghouse air cleaner that operates by electricity.

Precipitron is entirely different from an ordinary air filter. Destructive particles in the air stream are given an electric charge and then drawn off to oppositely charged plates. Precipitron even removes particles as small as  $1/250,000$  of an inch—including tobacco smoke.

Today, this equipment, hidden away in ventilating ducts, provides more than eight million cubic feet of electrically cleaned air per minute in war industries alone.

We will be glad to tell you more about the many industrial uses of electric air cleaning and more about the operation of Precipitron itself. Just write Westinghouse Electric & Manufacturing Company, Edgewater Park, Cleveland, O., for our new folder, B-3083.

\*Trade-mark registered in U. S. A.


Westinghouse *Precipitron*



## Building Reporter

(Continued from page 102)

on whatever signals are used. Same action on the box marked "All Clear" causes a series of short blasts to sound.

**Manufacturer:** Edwards & Co., Connecticut & Clinton Avenues, Norwalk, Conn.

**Name:** Arrestor Air Raid Alarm.

**Features:** Intended for large buildings insulated against outside noise, this horn is pitched to reduce wall reverberations, thus insure a constant tone. It operates

on compressed air. Rating: 88 decibels at 100 ft. (Another unit, the "Blastor," produces 107-109 decibels for outdoor warnings.)

**Manufacturer:** Westinghouse Air Brake Co., Industrial Div., Pittsburgh, Pa.

**Name:** Sparton Building or Apartment Siren M603.

**Features:** Unit can be hooked onto the general alarm system, or it can have a separate control for manual operation. Rotor has six ports which diffuse sound in all directions. Signal is a loud, piercing wail.

**Manufacturer:** Sparks-Withington Co., Jackson, Mich.

## NEW PRODUCT LITERATURE

**BLACKOUT.** Folder, 6 pp., 8½x11. Precautionary equipment described consists of stirrup pumps, blackout screens, paper, shades, ventilators and curtains as well as instantaneous blackout paints of dull finish, high adherence to glass surfaces, for brush or spray. Defense Blackout & Camouflage Co., Inc., 420 Lexington Ave., New York, N. Y.

**BLACKOUT.** *Light Without Bulbs.* Leaflet, 2 pp., 8½x11. How to anticipate blackouts, restricted night lighting and electric light failure by use of phosphorescent cloth for signs, guides, window displays. Century Lighting, Inc., 419 West 55th St., New York, N. Y.

**LIGHTING.** *Modern Lighting for Schools, Colleges and Universities.* Pamphlet, 8 pp., 7½x10. Because schools today are offering 24-hr. service to prepare the nation's technicians and workers, the subject matter of this document is vital. Text and excellent photographs tell how to control natural light with window shade cloth. E. I. du Pont de Nemours & Co., Wilmington, Del.

**FLUORESCENT LIGHTING.** *Jefferson Ballasts for Fluorescent Lamps.* Booklet, 12 pp., 8½x10. Information on single, two-lamp and three-lamp ballasts for fluorescent lamps. Complete specifications, dimensions, wiring diagrams, attractively and graphically presented. Jefferson Electric Co., Bellwood, Ill.

**HEATING.** *Manual of Information.* Folder, 4 pp., 8½x11. Clear and helpful information on the proper installation and operation of oil-burning equipment, with two patriotic ends in view: conservation of fuel, increase of output through proper draft control. The Hotstream Heater Co., Combustion Equipment Div., 8007 Grand Avenue, Cleveland, Ohio.

**VENTILATORS.** *Blackout Your Windows But Not Your Ventilation.* Leaflet, 4 pp., 8½x11. Antiquated ventilation disappears before the current necessities of blackout; this interesting bulletin shows how power roof vents can be utilized, featuring blackout hoods, protective finishes, economical installation. Ilg Electric Ventilating Co., 2850 North Crawford Ave., Chicago, Ill.

**FLOORS.** *The Cleaning of Industrial Floors.* Booklet, 24 pp., 8½x11. A timely compilation of data on the cleaning of many types of flooring material used in all types of buildings. No. 62 in the series of Magnus Technical Bulletins. Magnus Chemical Co., Inc., Garwood, N. J.

**HARDWARE.** *Dexter-Tubular Commander Line.* Catalog, 12 pp., 8½x11. Utile and well-organized, this catalog lists locksets and latchsets that are certified to conform with Federal Emergency Specifications on Defense Housing. Door latches are listed with Federal type numbers, to simplify checking against Federal Specifications. National Brass Co., Grand Rapids, Mich.

**VALVES.** *Keep 'Em Flushing.* Booklet, 16 pp., 8½x11. Especially useful for large military camps, condensed data are given on check-up, repair, maintenance, water savings and preservation of the product. Imperial Brass Mfg. Co., 1200 West Harrison St., Chicago, Ill.

**WINDOW GREENHOUSE.** *For Your Victory Garden.* Leaflet, 1 p., 8½x11. Featured: a semi-assembled, curved glass conservatory that can be erected in front of a basement window to lighten work connected with victory gardening. Ickes-Braun Greenhouse Mfg. Co., 2320-40 Wabansia Ave., Chicago, Ill.

**GLASS.** *Practical Glass Ideas.* Booklet, 36 pp., 8½x11½. A carefully prepared series of ideas for the use of glass: to lighten dark areas, to add decorative detail, to remodel interiors and exteriors cheaply and attractively. Accompanied by a set of eight detached instruction pages showing installation details. Libbey-Owens-Ford Glass Co., Toledo, Ohio.

**PUTTY.** *Master Glaziers Putty Selector.* Descriptive blotter, 4x9. A highly useful aid for selecting the correct putty or glazing compound for special jobs: sashes, doors, repair work, etc., to insure the specific type of putty for specific application. The Biddle Co., 612 S. Main St., St. Louis, Mo.

**PAINT.** *One-Coat Flat Wall Paint.* Folder, 5 pp., 3½x6½. Featured: a new paint that produces an opaque, cloud-free job with only one coat, applied either with brush or spray on any interior surface; complete with color card. O'Brien Varnish Co., South Bend, Ind.

**PAINT.** *Priorities Primer.* Booklet, 24 pp., 5x6½. An up-to-the-minute digest, intelligently written in question-and-answer style, containing rules governing the priorities system for paint uses. Preference rating orders and forms are listed, described, explained. Devco & Reynolds Co., Inc., 44th St. & First Ave., New York, N. Y.

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"We made a definite  
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**DUNLAP & COMPANY, INC.**  
BUILDERS  
COLUMBUS, INDIANA

June 2nd, 1942

E. L. Bruce Company,  
Memphis, Tenn.

Gentlemen:

Re: Defense Housing Project  
Jeffersonville, Indiana.

We wish to tell you how well pleased we were with the use of Bruce Streamline Flooring on the above project. We found that we made a very definite saving in time by the use of your prefinished flooring. We also made a saving in time and expense due to your being able to make prompt delivery whereas other sources of supply on regular flooring were unable to make delivery for several weeks.

Aside from the saving in time affected by the use of Bruce Streamline Flooring, we felt we were giving the Government and the tenants a floor far superior in appearance and durability for practically the same cost as regular flooring finished on the above job.

Yours very truly,

DUNLAP AND COMPANY, INC.

*Elmer E. Dunlap*  
Elmer E. Dunlap, President

EED/KW

WE HAVE SERVED THOSE WHO BUILD SINCE 1877



ELMER E. DUNLAP,  
Dunlap & Co., Inc.,  
Columbus, Ind.

This is just one of many letters received from architects and contractors all over America, praising Bruce Streamline flooring for War Housing—because it "saves time" . . . "saves money" . . . "provides a better looking, more durable floor" . . . "is delivered on schedule." Send today for a copy of the new book "Low Cost Floors for War Housing"—giving the facts on the greatest improvement ever made in hardwood flooring.

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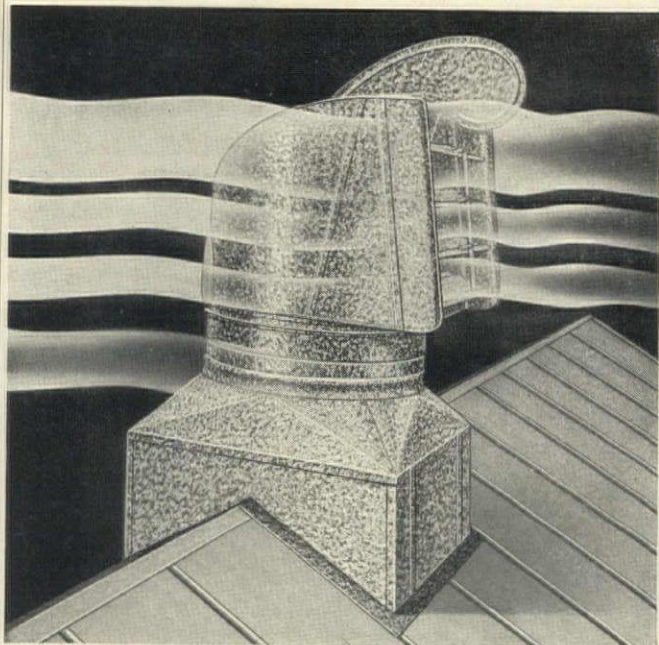
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## FORUM OF EVENTS

(Continued from page 6)

### ELECTED

Edgar I. Williams, to be president of the New York chapter of the American Institute of Architects. L. Andrew Reinhard was elected vice president, Robert S. Hutchins, secretary, George A. Licht, treasurer, and Hugh Ferriss, recorder. President Williams was born in New Jersey, began his career as a machine designer, and is now an associate at the Columbia School of Architecture.

### EDUCATIONAL

Ohio State University announces the establishment of a course in camouflage for industrial and military use, to be offered during the summer quarter and "for the duration." Professor Morris E. Trotter, Department of Architecture and Landscape Architecture will be the opening lecturer.

The Department of Architecture of the University of Pennsylvania is offering the Albert Kahn Scholarship in Industrial Architecture to the applicant who has the best record in both Design and Construction at the end of the first four years of an architectural course. The part-tuition scholarship is to be used toward more ad-

vanced work; further details may be had by writing Dean George S. Koyl, School of Fine Arts, University of Pennsylvania, Philadelphia, Pa.

At the Massachusetts Institute of Technology, Cambridge, Mass., a summer program in City and Regional Planning will be given, beginning July 13 and ending July 31. Professors Frederick J. Adams and Flavel Shurtleff will offer courses in Housing, Zoning, Land Utilization, Urban Redevelopment, Traffic, Recreation, The Master Plan and Subdivision.

### ANNOUNCEMENT

United States Plywood Corporation has added to its technical staff Vernon F. Sears, noted architect. Associated with such interesting plywood construction projects as the New Fairfield School in Connecticut, Mr. Sears is a native of that state, and was graduated from Pratt Institute and Yale University.

### DIED

JAMES GILBERT WHITE, 80, engineer, in Greenwich, Conn. Mr. White was born in Milroy, Pa. He was graduated from Pennsylvania State College and received his degree of Doctor of Philosophy from Cornell University. After teaching physics at the University of Nebraska for two years, he joined the Western Engineering Company which specialized in building electric railways. Mr. White first won conspicuous notice as a result of his design and construction of the Buffalo-Niagara Falls Electric Railway, which later became standard for similar railways. His company constructed buildings in many parts of the world: the oil storage base at Pearl Harbor; the electric lines at Manila; and the Waldorf and Ritz Hotels and Covent Garden Opera House in London.

PAUL B. LA VELLE, 63, architect, in Philadelphia, Pa. Mr. La Velle was born in Switzerland, educated at the Universities of Zurich and Stuttgart and the Ecole des Beaux-Arts in Paris, and came to the United States in 1899. He designed an addition for St. Agnes Hospital in White Plains and the St. Francis Sanatorium in Roslyn, L. I.

### ERRATA

The March issue of THE FORUM published photographs of the house designed by John W. Peirce in Wayland, Mass., and erroneously stated its cost as \$28,000. The architect writes "I am proud of the cost record on the Olmsted House . . . the total was slightly under \$12,000." THE FORUM apologizes for the error.

THE FORUM neglected to add the names of Oliver G. Bowen, consulting engineer, and Ira E. Wyatt, mechanical engineer, to its list of credits for the Sears Roebuck stores at Birmingham, Ala., published in the April issue.



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(High Heat Baked Plastic-Finished)

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LOW COST  
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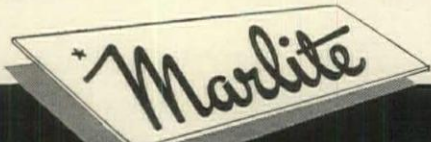
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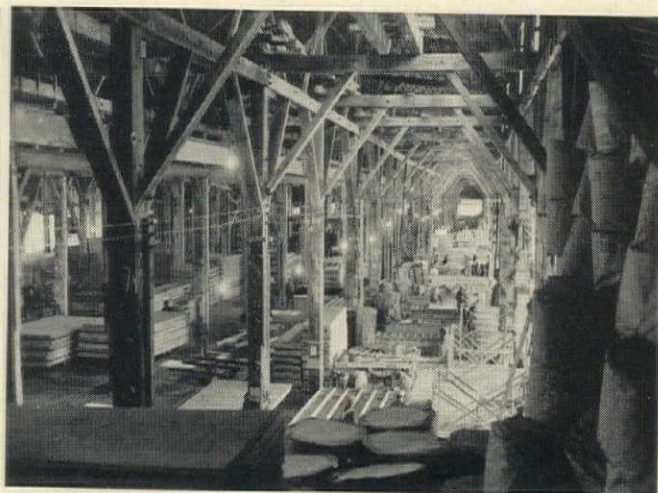


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This huge building, almost a fifth of a mile long, is the Barrett & Hilp prefabricating plant—set up in Portsmouth, Va., a few months ago—to build a city for 20,000 people. Barrett & Hilp signed a contract to build 5,000 homes for Portsmouth shipyard workers. The time set is five months for the whole job—a building rate for the houses of 60 a day.

But, so closely coordinated is the prefabricating at the plant with the operations at the site, that Barrett & Hilp can increase the rate of building to 80 per day!

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Tomorrow, this backlog of experience will produce the houses you design—at new low costs. For the first time, millions of Americans will have their own homes at prices they can afford. It will open up to architects markets they have had to leave untouched.

The time to start planning to serve these peace-time markets is now. Write us for full details.



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## BOOKS

(Continued from page 14)

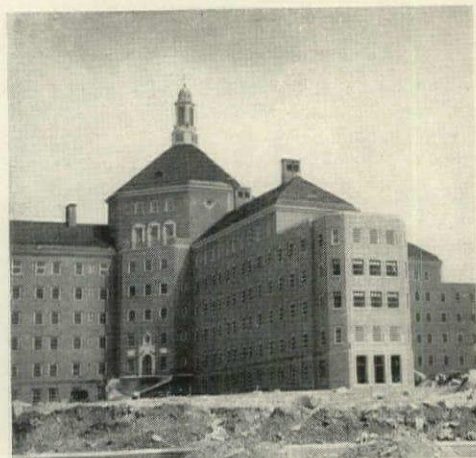
**FORGOTTEN FORT TEJON**, by Clarence Cullimore. Kern County Historical Society, Bakersfield, California. 88 pp., illustrated with photographs and drawings. 6x9. \$1 (paper covers).

Fort Tejon was one of the strongholds of pioneer California, and is located on the highway between Los Angeles and Bakersfield. Now largely in ruins, it contained about two dozen buildings, including bar-

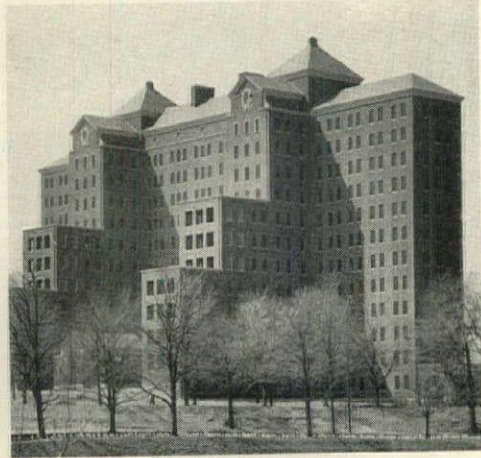


racks, officers' quarters, shops, stables and a granary. Important as a station on one of the overland mail routes, it had its

share of battles with Indians and bandits, and had its moment of contemporary fame when it became the headquarters of the camel corps established by Jefferson Davis. In 1864 the fort was abandoned and became part of a sheep and cattle ranch. Fire, neglect and earthquakes very quickly reduced the buildings to their present dilapidated state. A couple of years ago the property was acquired by the State of California, and it is possible that the buildings may some day be restored. Mr. Cullimore has made a painstaking study of the fort and its history, and has made restoration drawings of the buildings, one of which is shown above.



Willow Brook State Hospital, West Brighton, N. Y.



King's Park State Hospital, King's Park, N. Y.



Central Islip State Hospital, Central Islip, N. Y.



Pilgrim State Hospital, Brentwood, N. Y.

**AMERICANS 1942.** Edited by Dorothy C. Miller, with statements by the artists. The Museum of Modern Art, New York, 128 pp., illustrated. 7 3/4 x 10 1/4. \$2.

The Museum of Modern Art has often been criticized for its habit of ignoring American artists in favor of "big name" foreign painters and sculptors, and for its apparent unwillingness to show the work of the young and consequently less well known people. If the charge is correct, this book, and the exhibition for which it served as a catalog, should help to restore the confidence of the critics. The examples shown are by eighteen artists who work outside of New York, whose average age is 35, and who developed their talents in the Middle West, New England and the Pacific coast. The book is the first in a continuing survey of American art and offers a very encouraging picture of the state of the arts at the present time. The painting and sculpture shown are extremely varied in theme, background of influence and technique.

**ACOUSTICS OF BUILDINGS**, by F. R. Watson. John Wiley & Sons, Inc. New York. 171 pp., illustrated. 6x9. \$3.

This is the third edition of one of the standard books on acoustics, revised by the author to take account of developments during the past ten years. The text covers general phenomena of sound as applied to buildings, acoustics of

### THESE 4 STATE HOSPITALS IN THE N. Y. AREA BOUGHT

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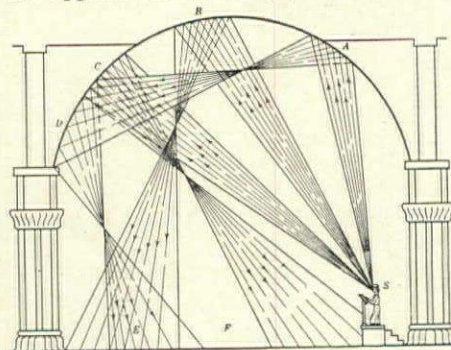
The exacting requirements of these four huge hospitals of the Department of Mental Hygiene, State of New York, were met by Eljer fixtures. Wm. E. Haugaard, Commissioner of Architecture for the State, supervised the construction.

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rooms and sound insulation. Discussion of each of these three main subjects is very full and well illustrated. There is special emphasis given auditorium acoustics, one of the most common problems encountered in the field. The illustration (above) shows objectionable sound reflections produced by a dome.



## Beautiful Sea Isle Hotel

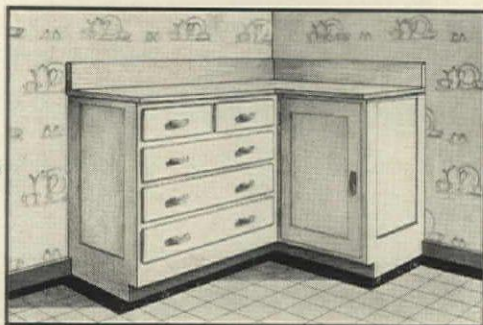
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## LETTERS

(Continued from page 18)

### NEWSPAPER COMMENT, CONT'D

THE ARCHITECTURAL FORUM article really treated the town very charitably. This architect said: "Norfolk is the most unprogressive town of its size in the country. We don't have buildings here of the character found in many smaller towns. The boom knocked the socks off Norfolk, and we stood still while other cities were putting up fine modern apartment houses

and magnificent buildings. I think the writer of this article got his information straight, especially in his criticism of Mr. Hollowell for saying there was no housing shortage in 1940, when 3,000 houses were being asked. Since then, 12,597 family units have been built, and still there is a shortage. I think the Real Estate Board is directly to blame for forcing thousands of demountable houses on this area, instead of permanent building that was needed, and these settlements of demountables are proving to be very undesirable."

Another prominent architect took an opposite view, although he said the article disgusted him, and he didn't finish read-

ing it. "This writer makes Norfolk seem to be nothing but a dump," he said, "it blames the town for what it hasn't done, but says nothing about the good things we have done."

*From the Norfolk Ledger-Dispatch:*

Condemnation of the Navy, local banks and real estate men for "confusion and ineptitude" in solving the housing problem here resulting from the war expansion is "unjust and unwarranted," in the opinion of local real estate interests.

Statements to this effect were issued today by Otto Hollowell, secretary of the Norfolk Real Estate Board, and V. H. Nusbaum, prominent Norfolk realtor, in commenting on the article in yesterday's *Ledger-Dispatch* reproducing much of a story from THE ARCHITECTURAL FORUM on the Norfolk housing situation.

If the problem had been left to the Navy and the Real Estate Board, Norfolk would have been adequately housed by now, Mr. Nusbaum said.

"The article in Thursday's paper, headlined 'Navy, Realty Men and Bankers Blamed for Confusion and Ineptitude,' here, quoting from an article in the June issue of ARCHITECTURAL FORUM, is just so many lines of reading material without a fair treatment of existing facts. The wholesale condemnation of the Navy, real estate men and banks is unjust, unwarranted and improperly placed by a distant spectator who turns out to be a magazine reporter. Perhaps the architects, engineers and city planners et al should have been added to the list of the condemned.

"In the first place the only local body which loudly opposed housing were a few Building and Loan association officials.

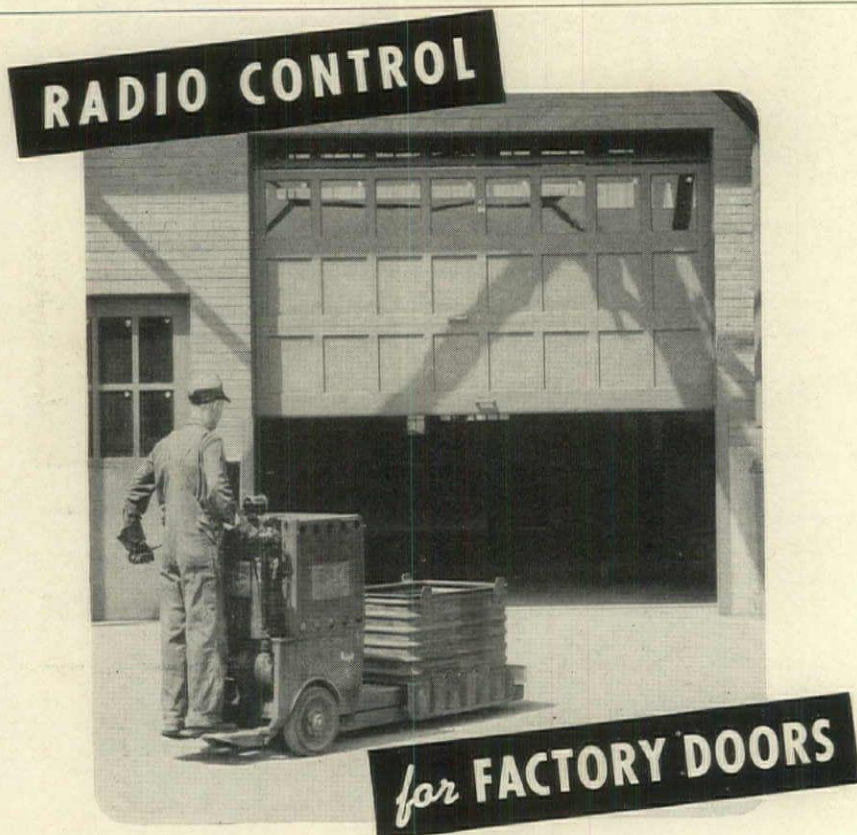
"Emphatically they were not the Real Estate Board representatives for they have never opposed any sound building project in Norfolk to my knowledge.

"Secondly, in our experience of locating 2,000 housing units in Norfolk the naval officials we contacted were very influential and cooperative in distinctly stating the local housing needs to the builders and FHA officials. I do not believe anyone thinks (not even THE ARCHITECTURAL FORUM) that it is up to the Navy to build housing units. They repeatedly called attention to the housing situation. Your own paper should recall a statement published by you accredited to Admiral Simons stating that anyone who opposes the building of homes here is sabotaging the defense program.

"In order for the people to know and hear from one actively engaged in the housing business—do not let anyone blame the Navy officials here or the Norfolk Real Estate Board. If it had been left to these gentlemen Norfolk would have been adequately housed by now."

"It all depends on where you sit how it looks," Otto Hollowell, executive secre-

(Continued on page 112)



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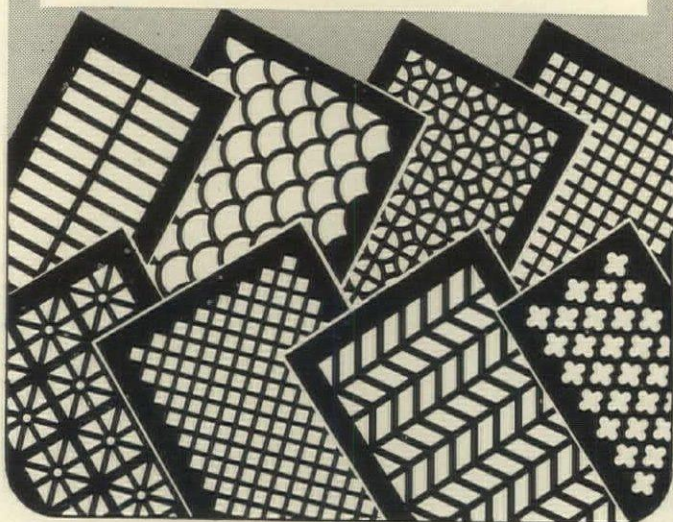
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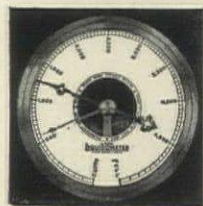
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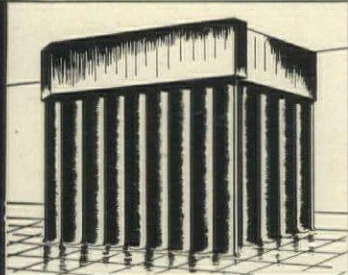
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## Blackout PARTITIONS

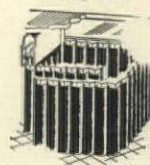


● An attractive and practical solution to the lightlock and blackout entrance problem is now available in New Castle's new folding fabric blackout partitions. Like the famous Modernfold Doors, the new partitions employ an accordion-like principle, assuring unusual flexibility. Conforming to blackout standards, they permit access to and exit from lighted buildings.

When not in use, the partitions can be folded to the walls and no valuable space is consumed or lost such as that required by a permanently constructed lightlock. New Castle Blackout Partitions can be made to meet the problems of location and door arrangements. At the right are a few typical applications. Write for full details today.

## MODERNFOLD DOORS

Practical, attractive Modernfold Doors have been used successfully for all types of openings, both small and large. The precision-built, accordion-like, metal frame offers a firm foundation to which fabric covering of various colors are attached. Send for full information.



## New Castle Products

1613 I Street, New Castle, Indiana  
52 S. Audubon Rd., Indianapolis, Ind.  
Modernfold Doors, 424 Madison Ave., New York City





## LETTERS

(Continued from page 110)

### NEWSPAPER COMMENT, CONT'D

tary of the Norfolk Real Estate Board, said today, commenting on THE ARCHITECTURAL FORUM's critical story of housing in Norfolk.

"The magazine obviously wanted a sensational story and that's what they got. It certainly is true that Norfolk has slums and it's just as true that every other city

of any size has slums. The Real Estate Board has never opposed slum clearance and I do not believe it ever will. The board has opposed subsidizing housing, masquerading under the guise of slum clearance as defined by USHA.

"So far as opposition to FHA's 25-year no down payment plan (on which most of the out-of-town builders operate), it is, of course, much too early to determine if the board's opposition to such a plan was well founded or not. The statement is quite prevalent in realty circles, however, that because of shoddy construction methods many of the houses may not be standing at the end of 25 years."

Forum:

I wish to congratulate you for writing such an accurate and constructive article about the Norfolk housing situation, for it is by far the best that has been published yet.

You will see by the enclosed that everyone in Norfolk is talking about the article. The unbiased are outspoken in praise of your article and so are almost all the high Naval officials, in fact, it came just in time to help the Navy with their plans to try to get 23,000 more homes for this area. Just a day or two ago the Navy released a story, stating 500 families were resigning each month from war work due to the house shortage here. They also estimate that 10,000 are sleeping in trailers and everyone thinks your accurate article will help this situation.

The Emergency Housing Committee is mostly made up of wealthy patriotic citizens who want to see the Navy get all the houses they need for defense workers at Norfolk and they believe the Navy Department is right and that Norfolk needs 23,000 more defense homes. Your story will help win the war by helping the Navy get the 23,000 needed defense homes.

W. B. SHAFER, JR.

Emergency Housing Committee  
Norfolk, Va.

Forum:

Thank you very much for permission to reprint "Norfolk, Va." Naturally, the article has stirred up a very considerable stir.

It is my observation that most competent observers, by far, think you did a bang-up piece of reporting and a workmanlike bit of writing. Many of those who feel hurt about it admitted that the facts were straight, as far as they went . . . and it seems to me they went far enough for the purpose.

AL T. LEWIS

Norfolk Virginian Pilot  
Norfolk, Va.

### POST-WAR PATTERN

Forum:

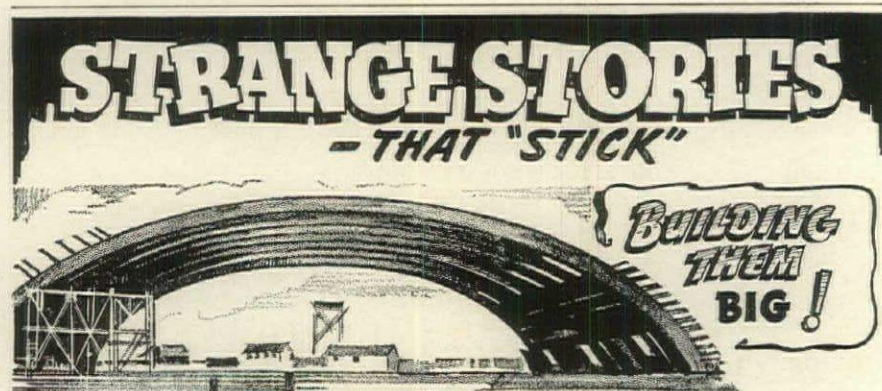
Has the series on Post-War Pattern been discontinued or will further studies on this subject be forthcoming in the future?

It is an exceedingly valuable and worthwhile effort which should be carried on. May we hear more of it and may it be thoroughly frank and to the point.

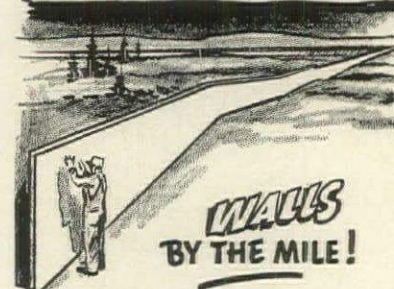
ERICK W. THRIFT

Winnipeg, Man., Canada

The third article in the Post-War Pattern series is scheduled for an early issue.—Ed.



**LAUCKS GLUES** WERE USED IN THE CONSTRUCTION OF  
152 FOOT BEAMS ON A HANGAR AT **GRAND FORKS, N.D.**



**CONTRACTOR SAVES NAILS  
BY USING LAUCKS GLUE  
TO PREFABRICATE 22 MILES  
OF DOUBLE WALL FOR  
WARTIME HOUSES!**

**I. F. LAUCKS, Inc.**

MANUFACTURING CHEMISTS

"Leadership through Research"

Seattle - 911 Western Ave.  
Chicago - 6 North Michigan Ave.  
Los Angeles - 859 E. 60th Street  
Vancouver, B. C. - Granville Island  
Portsmouth, Va. - Commerce and Broad Sts.

**SPEED!** Necessity for speed first turned yesterday's doubts about glue in construction into enthusiastic endorsement. Now American builders and prefabricators know that Laucks Construction Glue methods not only are faster . . . but also are stronger . . . and save precious metal for combat use.

On history's biggest housing projects, wall panels are "glue-welded" to joists and studding in assembly line procedures. Glue-laminated arches and beams replace steel . . . and qualify fully for strength. Wood and Laucks Glue are joining forces in scores of new and vital ways in building construction as well as in wartime industries, in aircraft and boat-building . . . to speed America's production for victory.

**MEET U. S. SPECIFICATIONS**—Laucks water-resistant and waterproof glues and resins meet Army, Navy, C. A. A., Bureau of Ships, etc., specifications.

**STRONGER**—"Stronger than nails by test" . . . and easier to get.

Contractors, Builders, Dealers,  
Architects—write Laucks  
for full information.



• **LAUCKS CONSTRUCTION GLUES** •



## U. S. Flying School Done in 3½ Weeks!

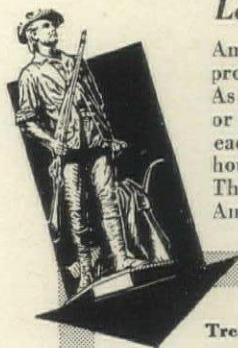


Here was a quick U. S. Government Defense job. There were several buildings in the project, but prefabricated materials made it possible to get each building under roof in only 2½ days.

- Our large, completely equipped plant is now available for all types of wood fabrication. Inquiries are invited.

**HOUSTON Ready-Cut HOUSE CO.**  
25 years Prefabricating Houses  
POLK AVENUE HOUSTON, TEXAS

voluntary } helps workers provide for the future  
pay-roll } helps build future buying power  
allotment }  
plan } helps defend America today



### Let's do it the American way!

America's talent for working out emergency problems, democratically, is being tested today. As always, we will work it out, without pressure or coercion . . . in that old American way; each businessman strengthening his own house; not waiting for his neighbor to do it. That custom has, throughout history, enabled America to get things done of its own free will.

### FREE - NO OBLIGATION

Treasury Department, Section A,  
709 Twelfth St. NW., Washington, D. C.

Please send me the free kit of material being used by companies that have installed the Voluntary Defense Savings Pay-Roll Allotment Plan.

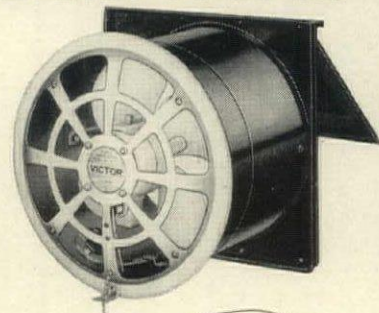
Name \_\_\_\_\_

Position \_\_\_\_\_

Company \_\_\_\_\_

Address \_\_\_\_\_

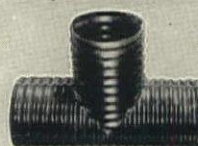
## Called to the Colors



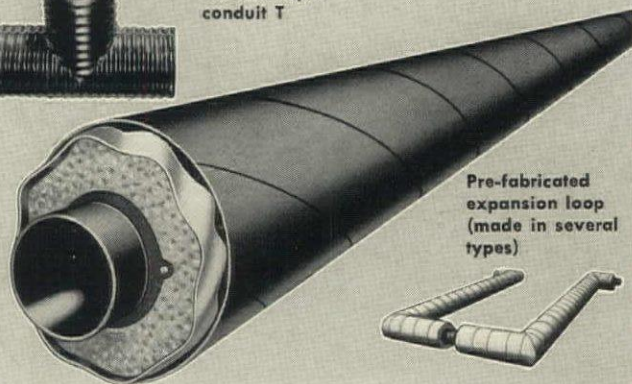
After this job is over, we'll be seeing you again. In the meantime it's all out for VICTORY at VICTOR.

**VICTOR ELECTRIC PRODUCTS, INC.**  
2950 Robertson Ave., Cincinnati, Ohio

## PRE-FABRICATION for Speed!



Standard split conduit T



Pre-fabricated expansion loop (made in several types)

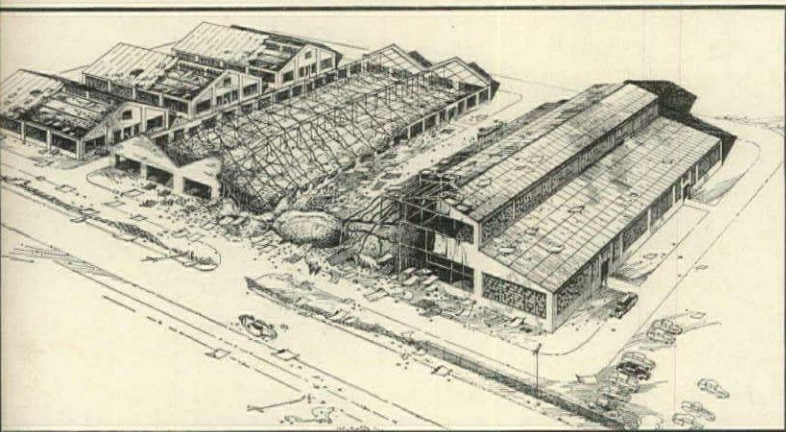
Ric-wiL Pre-Sealed Insulated Pipe Units are fully factory pre-fabricated. They include not only conduit, pipes, and insulation—but also pipe supports, pipe and conduit fittings, expansion loops, water-tight glands, pre-fabricated manholes, anchors, and other accessories. Maximum speed is attained on the site, with a minimum of labor, and no parts to wait for. Furnished for the underground or outside overhead distribution of steam, hot water, or oil. Completely engineered to your specifications. Ric-wiL saves precious time and cuts cost on any war-program project! Write or wire for full information.

For Engineers on Defense Plants only: Ric-wiL  
Engineers' Manual 420A sent on request.

**Ric-wiL** INSULATED PIPE UNITS  
THE RIC-WiL CO., CLEVELAND, O.  
Agents in Principal Cities

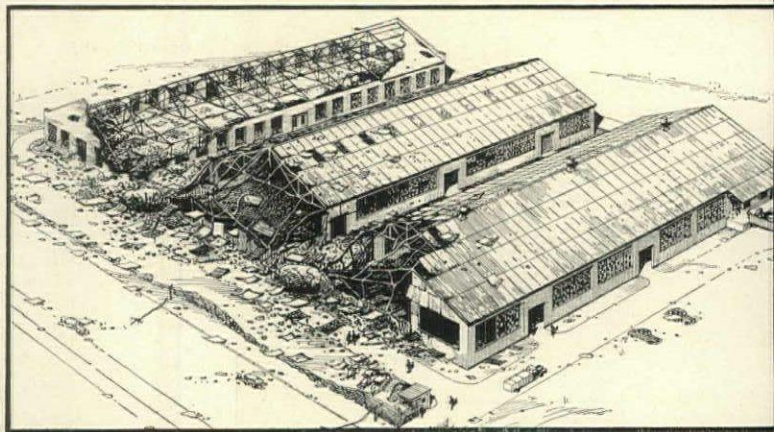


# IN ENGLAND



**CASE I—ENGLISH BOMBING** "On Friday night (date deleted), a land mine dropped right down in the roadway between two of the ..... Company's buildings. One of them was roofed with ..... (a fragmenting material), and the other with RPM.

"The fragmenting material on the adjacent building, and indeed on buildings more remote from the landing place of the mine, has been blown to pieces. The RPM covered building, (shown in foreground), has been damaged only for something like 40 to 50 feet back from the gable wall. In many cases, the sheets can be re-used."



**CASE II—ENGLISH BOMBING** "Bombs fell near a group of factories in (city deleted) and there were three different buildings affected by it. RPM sheeting on two buildings in foreground, came out of the blast with flying colors, while other materials just disappeared.

"The owners were delighted with the performance of two RPM buildings, one seven years old and the other a year old. The roof on the seven-year-old building was practically undamaged. The year-old factory had Robertson Sheetlites in the roof. Only four Sheetlites cracked while 80% of the glass (sidewall sash) has 'gone with the wind.'"

# ROBERTSON PROTECTED



# THEY KNOW HOW

# RPM can take it!

England has the facts about building materials and their resistance to bombing.

Some can take it. Some cannot.

Some have been disastrously shattered and wrecked. Many had to be completely replaced. One material . . . Robertson Protected Metal (RPM) roofing and siding . . . has, time after time, demonstrated its ability to absorb the shock to a remarkable degree, confine the damage to comparatively small areas and make quick repairing possible.

For instance, when a detonation bomb explodes near a building, the blast wave travels outward like a veritable tidal wave of *pressure*. Then this wave is succeeded immediately by a powerful *suction* wave, which sometimes is even more damaging to roofs and sidewalls.

But, Robertson Protected Metal (RPM) roofing and siding will literally *breathe* with these pressure and suction waves; this, because RPM has the invaluable quality of yielding with the blast, yet returning to its original position. Consequently, the damaged areas of RPM roofing and siding are relatively restricted . . . and quick repairs can be made.

This ability of RPM to "give" and return

to its original position, coupled with its resistance to fragmentation into shrapnel-like missiles, is responsible for its being chosen by so many English manufacturers for roofing and siding their plant buildings. They know from experience.

## IT MAY HAPPEN HERE...

If and when bombs do come . . . many thousands of American War Production Plants will be ready with RPM protection. Still more are under construction.

Such a high degree of prefabrication has been achieved in RPM . . . your building roofs and sidewalls are 77% completed when RPM reaches the job. This means an earlier start on War Production.

The Robertson organization is prepared for quick action. Groups of engineers in every section of the country are immediately available for the detailing of needed structures. We manufacture with speed. Construction crews get on the job, and finish it, fast. *What Robertson really makes is time.*

## H. H. ROBERTSON COMPANY

FARMERS BANK BUILDING . . . PITTSBURGH - PA.

# METAL



H. H. Robertson Co., Farmers Bank Building, Pittsburgh, Pa.

- ( ) Please send me copy of your new book, "Quick is the Word."
- ( ) Please have a Robertson Engineer submit new portfolio covering your Bombing Story.

Name \_\_\_\_\_ Firm \_\_\_\_\_

Address \_\_\_\_\_

City \_\_\_\_\_ State \_\_\_\_\_



# SPECIFICATION AND BUYING INDEX

The advertising pages of THE ARCHITECTURAL FORUM have become the recognized market place for architects and all others engaged in building. Each month these pages offer the most complete guide to materials, equipment and services to be found in any magazine. A house or any other building could be built completely of products advertised in THE FORUM. While it is not possible for a magazine to certify building products, it is possible to open its pages only to those manufacturers whose reputation merits confidence. This THE FORUM does.

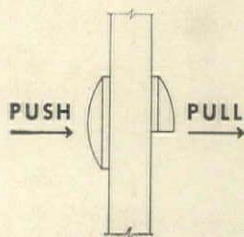
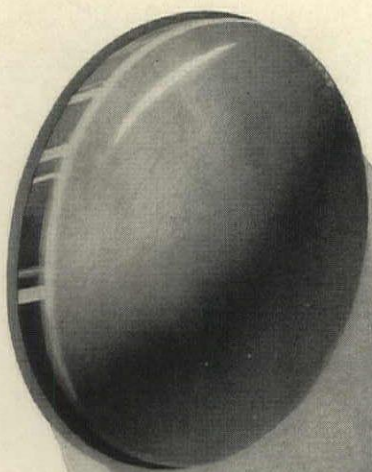
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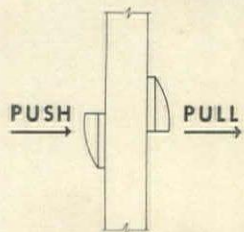
"... an ugly doorknob made by hand is a regrettable incident, but a million vulgar doorknobs in use are a calamity."

DOUGLAS COCKERELL, London, 1942, at a meeting of the Royal Society of Arts

**PUSH** ➔

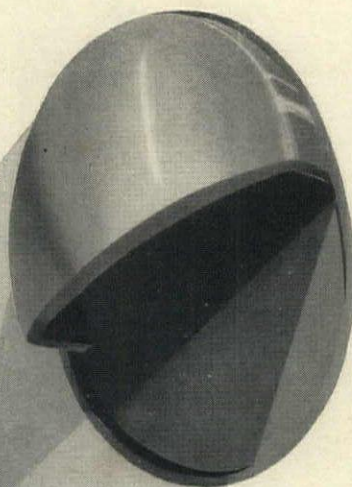


For doors with spring hinges or other automatic closing devices, PUSH-PULL units as illustrated.



For doors with standard hinges and no automatic closing devices, PULL unit is used in inverted position on PUSH side to facilitate easy closing.

◀ **PULL**

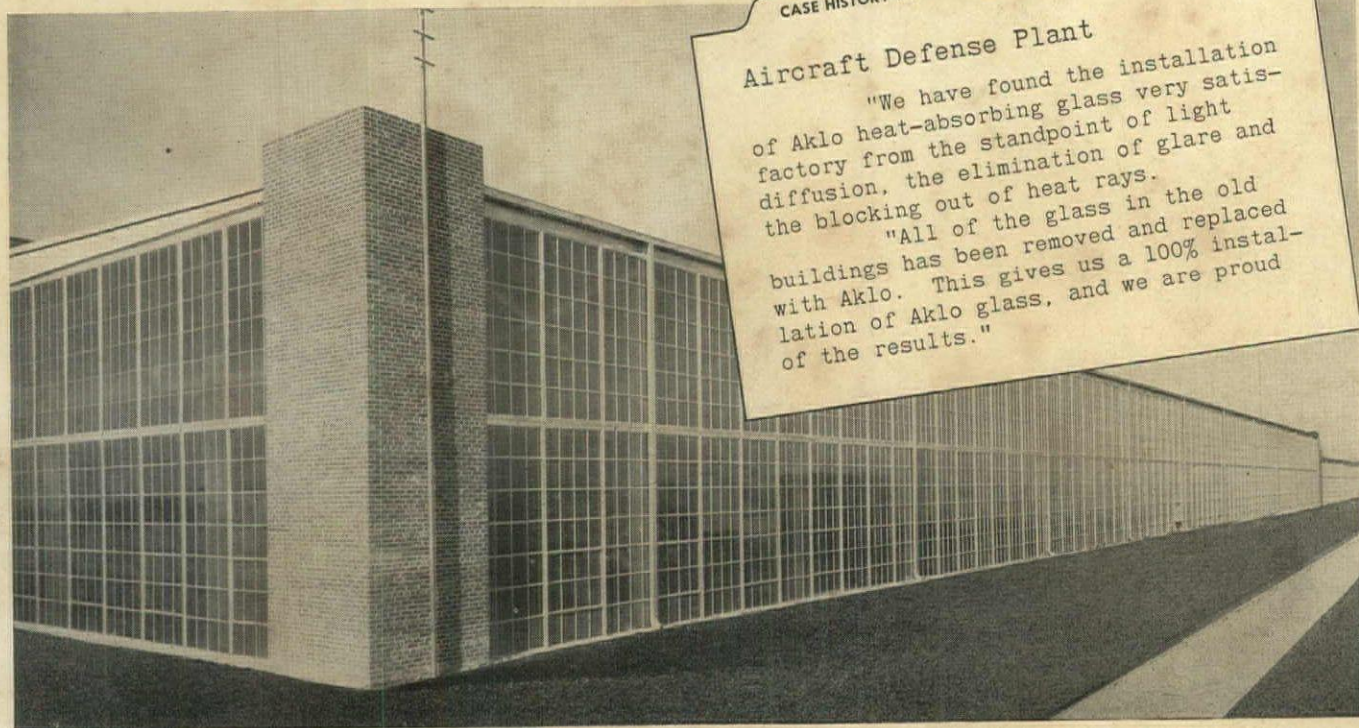


*Architects Ely Jacques Kahn and Robert Allan Jacobs suggest a design for PUSH-PULL hardware. While designed primarily for self-closing doors, provision has also been made for its adaptation to standard hinged doors.*

**READING** presents the fifth of a series of hypothetical designs submitted by members of the profession as a stimulus to better design in hardware for building post-war America.  
**READING HARDWARE CORPORATION, READING, PENNSYLVANIA**



# 14,830 REASONS why this plant is Speeding Vital Plane Production



CASE HISTORY No. 7

## Aircraft Defense Plant

"We have found the installation of Aklo heat-absorbing glass very satisfactory from the standpoint of light diffusion, the elimination of glare and the blocking out of heat rays.

"All of the glass in the old buildings has been removed and replaced with Aklo. This gives us a 100% installation of Aklo glass, and we are proud of the results."

**100% installation of AKLO GLASS eliminates eyestraining glare and fatiguing sun heat**



**REDUCES GLARE**—eliminates eyestrain and employee fatigue.

**RETARDS SUN HEAT**—keeps workers comfortable on their jobs.

**RENDERS SAVINGS**—eliminates shades or painting of glass.

In this huge new aircraft plant, 14,830 lights of AKLO glass guard workers against unnecessary fatigue. Frosted AKLO admits soft, diffused daylight—without the glare that causes eyestrain, often leads to errors and accidents. Costly shades or bothersome painting of glass are eliminated.

By filtering out 97½% of the sun's infrared rays, Frosted AKLO keeps the interior comfortably cool in summer. Employees feel better and work better. Temperature is more easily controlled for fitting of precision parts. Operating costs with air conditioning equipment are substantially reduced.

AKLO glass is manufactured by Blue Ridge Glass Corporation, Kingsport, Tenn., and sold by Libbey-Owens-Ford through leading glass distributors. It is available in hammered and ribbed patterns, both wired and unwired. For full information, write Blue Ridge Sales Division, Dept. 1271, Libbey-Owens-Ford Glass Company, Toledo, Ohio.

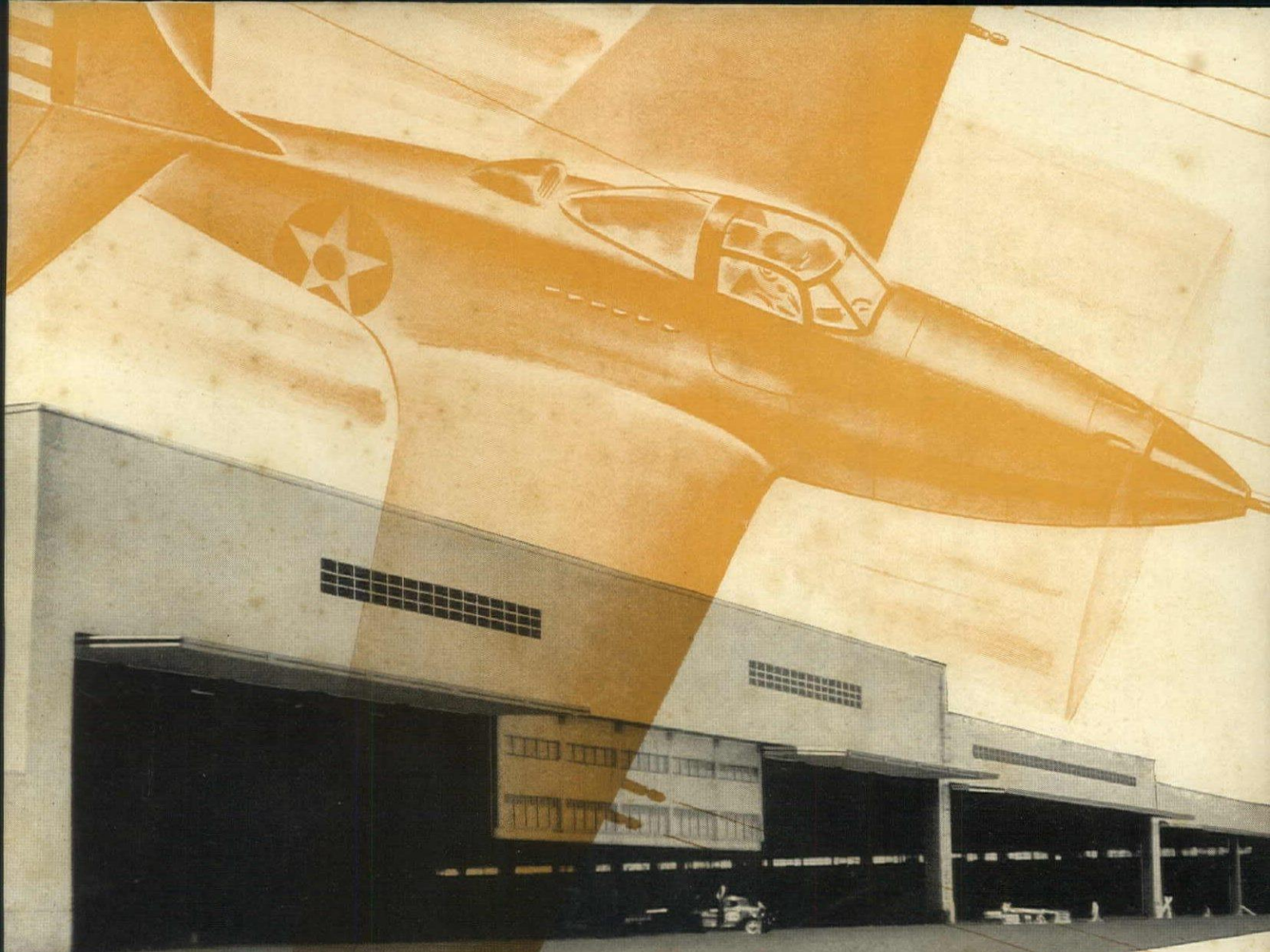


## BLUE RIDGE AKLO GLASS

Heat-Absorbing · Glare-Reducing · Figured and Wire Glass







*wide open for victory...*  
**731** feet of swiftly maneuverable  
**TRUSCON STEEL HANGAR DOORS**

Hundreds of Truscon steel hangar doors, in many widths and heights, operated manually or by means of completely concealed mechanism, are helping speed the nation's drive for Victory. Wherever airplanes are assembled or housed, there you will find preference for Truscon hangar doors. • The battery of doors illustrated is a typical example of Truscon hangar door engineering and fabrication. 731 feet wide by 36 feet high, these doors may be raised or lowered simultaneously or consecutively. They may be stopped at any point in the cycle of opening or closure, and, due to their particular design, prevent excessive heat loss in winter. • Truscon Door Engineers are experienced in all door problems regardless of type or size of opening... See Truscon's complete catalog in 1942 SWEET'S.

**TRUSCON STEEL COMPANY**  
YOUNGSTOWN, OHIO  
51 SALES ENGINEERING OFFICES • 27 WAREHOUSES  
*Subsidiary of Republic Steel Corporation*



# DOORS.

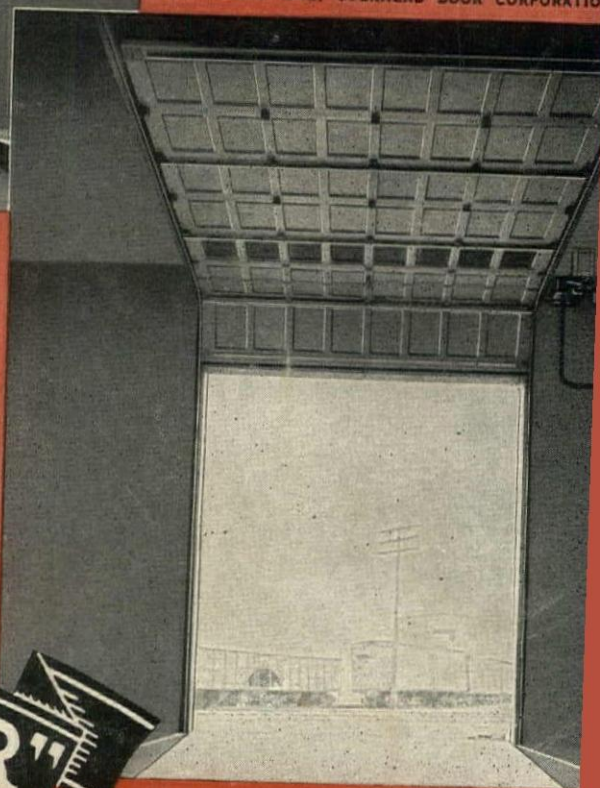
*with  
Electric  
Operators*

Filed in Stacks



COPYRIGHT 1942, OVERHEAD DOOR CORPORATION

● Fast, easy door operation is important! Control stations, properly arranged at convenient locations, can save man-hours in any war production plant, army, navy or marine structure, ordnance depot or loading platform. For dependable doors with efficient control by push button, key switch, pull station, etc., use The "OVERHEAD DOOR." The electric operators designed for this quality door are always in proper relation to the door size. Consult our nearest representative; ask for a complete plant survey without obligation.



EVERY INCH OF FLOOR SPACE PRODUCT

The  
**"OVERHEAD DOOR"**  
TRADE MARK  
WITH THE  
MIRACLE WEDGE

**OVERHEAD DOOR CORPORATION**  
HARTFORD CITY, INDIANA, U. S. A.